JUL 24 1926

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THE JOURNAL

OF THE

American Medical Association

Annual Subscription, $5.00 | PUBLISHED WEEKLY | Single Copies, 20 Cents

VOLUME 87, No. 4 | 535 North Dearborn Street, CHICAGO, ILL. | JULY 24, 1926

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Entered as Second-Class Matter, June 25, 1885, at the Postoffice at Chicago, Ill., under Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized on June 14, 1918. If undeliverable, return postage is guaranteed

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The Journal of the American Medical Association

Published Under the Auspices of the Board of Trustees

VOL. 87, No. 4 CHICAGO, ILLINOIS JULY 24, 1926

BOUNDARIES OF THE PUBLIC HEALTH FIELD *

MATTHIAS NICOLL, JR., M.D.
Commissioner of Health, State of New York
ALBANY, N. Y.

At no time in the world's history has there been, as now, such widespread recognition of the paramount importance of the public health to the welfare and happiness of the people. Nations, states, communities, official and nonofficial agencies, and hosts of individuals are demanding and obtaining the adoption of measures and means for the protection and betterment of physical and mental health to an extent that could not have been considered possible a quarter of a century ago. The growth of public health activities constitutes one of the striking phenomena and characteristics of the present generation. Public health has become the password which opens national doors to those who would promote also the cause of religion, education and international trade. It is the one subject which internationals, however uncongenial and mutually suspicious, can and do discuss without acrimony, political chicanery and hostility engendered in real or fancied wrongs. It is an ever-strengthening bond between nations, the importance of which is too little appreciated by the world at large. The underlying reasons for this widespread interest in public health are well known. Among them are the proved accomplishments of science in the field of preventive medicine based on new discoveries in bacteriology, chemistry and physics, vastly improved personnel in the ranks of public health officials, effective and far-reaching methods of public health education, and the result of millions of physical examinations made on recruits for military service in the Great War, which brought out, as nothing else could do, that as a nation our standard of physical fitness is very far below that which it should be, if we are to maintain the place among nations which natural environment, opportunity and good fortune have made for us.

No body of laws has been so universally upheld by the highest courts in this country as those relating to public health; and, notwithstanding the grave accusation, in some respects warranted, that we are not a law abiding people, in those states and communities in which laws and regulations affecting the public health are wisely drawn and efficiently administered, no people on earth show greater readiness to comply with their provisions, even when such compliance entails a good deal of personal restraint, discomfort and financial sacrifice.

The growing prestige and power conferred on public health officials bring with them new and greater responsibilities together with a mighty army of individuals, groups and organizations, desirable and undesirable, who, for many diverse reasons, creditable and discreditable, well meaning but often ridiculous, find it expedient to enlist under the banner of public health.

Nearly every human activity, with but little stretch of the imagination, may be interpreted as having some relation, however remote, to public health, and therein lies an ever-growing menace against which health officials should be constantly on their guard. Amendments to the public health law are being sought annually of state legislatures in increasing numbers, and the quantity of bills introduced for that purpose by individuals and organizations far outnumbers those emanating from and sanctioned by health officials, so that the state health officer finds it necessary to attend innumerable hearings at each session of a state legislature, and to use his official and personal influence to defeat undesirable and often foolish bills introduced on the plea of public health necessity. Fortunately, most state legislators and governors are learning to sift "the wheat from the chaff," so that few such measures become law. Were it not so, health laws would be so cluttered up with unnecessary and impracticable provisions that their administration would be impossible and public health progress would receive a check which only a drastic return to sanity and common sense would overcome.

THE FIELD OF PUBLIC HEALTH

The legitimate field of public health has been, by popular consent, enormously extended. It should continue to have a natural and steady growth as public necessity and human welfare demand; but let us beware of overloading health administration with duties and functions which will inevitably weaken efficiency in its undisputed sphere and which can as well, if not better, be undertaken by other branches of government or nongovernmental agencies.

The more general and less specific the duties imposed by law on public health officials, and the greater latitude afforded to exercise their own judgment and common sense, the better will they be able to serve the public, and with far less friction. The health commissioner of the state of New York is given power to "take cognizance of the interests of health and life of the people of the state, and of all matters pertaining thereto." I should be quite willing to let the law stop there and dispense with the remaining elaborate list of specific duties provided for. I realize, however, that the enumeration of such duties serves a useful purpose in the field of public health education, and as

* Chairman's address, read before the Section on Preventive and Industrial Medicine and Public Health at the Seventy-Seventh Annual Session of the American Medical Association, Dallas, Texas, April, 1926.

a necessary check on a health official who might desire to take a czarlike attitude in the administration of his office.

Without attempting to discuss what specific functions and duties should or should not be assigned to the health administration, it may be of value to note briefly certain activities of government, the proper agency for the conduct of which frequently gives rise to differences of opinion. The police power, inherent in public health law, proves an irresistible attraction to lawmakers who desire to forward this or that pet project for themselves or constituents; but it must not be forgotten that police officials, also, have their duties and responsibilities, which health officers can wisely afford to leave in their hands. The constant pressure being brought to bear to place on health authorities legal responsibility for the control of narcotic drugs is a case in point. This, in my opinion, is and should remain a police matter, notwithstanding the plea that it concerns the public health. There is no more reason for compelling health officials to undertake this work than to place on them responsibility for the enforcement of the laws relating to the control of alcohol.

Health and morals are not infrequently interdependent, notably in the case of venereal disease; but the regulation of morals may well be left to spiritual advisers, those who are or should be responsible for the bringing up of the young in the home, to the schools, to public opinion and, when immoral acts constitute infringement of the penal laws, to the police authorities. If any of these agencies fail to produce results, experience has shown that federal and state lawmakers can always be counted on to enact legislation, however futile, for the control of morals.

The licensure of physicians and other professions dealing with the human body is, in New York and I believe elsewhere, embodied in the public health law, in spite of the fact that the section of the law relating to it is administered solely by the state department of education as, in my opinion, it should be, at least until such a time as all the states and territories agree to divest themselves of their prerogatives in this respect and transfer them to the federal government. The present system of state licensure, based on every variety of standard, produces chaos and brings on the nation, as a whole, disrepute as to standards of professional education and qualifications. Yet even though health departments and bureaus are not responsible for the administration of the medical practice act, they should at all times be ready to support and strengthen it, protecting it from the constant onslaughts of unqualified and unscrupulous persons who seek, in growing numbers, to vitiate and weaken its provisions. It is questionable how far any state will succeed in upholding the legal qualifications for the practice of medicine or even, as more than one has done, in salvaging from the wreck the pitiful remains of what was once a law which protected the public health, except with the backing of public health officials and the plea of necessity to protect the public health.

Until the general attitude of the American people toward public officials undergoes a radical change, the health officer must labor under the disadvantage of being regarded as just one of the army of office holders, whose motives are frequently open to suspicion. I have so often expressed the opinion that the health official, however partisan his political views and affiliations, should never permit his official acts to be governed by them and that, conversely, politicians should keep their hands off the health officer, that it is not necessary now to elaborate this creed. There can be no question that politicians with vision and, by virtue of it, statesmen, are coming to realize more fully that interference with public health is bad politics, and that promotion of legitimate health activities is good statesmanship.

This restriction of the power of the health officer to give the highest service, to broaden the field of public health, or even to maintain and improve the standards of administration, may be and frequently is largely overcome by the backing and cooperation of two great groups; namely, the nonofficial health organization and the organized medical profession. The former, through a large membership consisting of representative persons in many communities who are earnestly trying to promote this or that branch of human welfare, are in a position to render the greatest service to the health officer by enlisting the interest, the cooperation, and the personal and financial support of the general public for his program, and by setting up demonstrations and inaugurating health campaigns.

The criticism formerly directed against these organizations was largely based on their multiplicity and seeming lack of cooperation among themselves and with local officials, which frequently led to confusion of purposes, wasted effort and petty jealousies regarding the bestowal of credit for this or that accomplishment. This unfortunate condition has been largely corrected, I believe, by the elimination of unnecessary organizations, the consolidation of the really useful ones, the cooperation between the great national organizations which the public recognizes as worthy of financial and personal support, and the realization, on the part of such organizations, that nonofficial health work in order to be effective must always recognize the rights, powers and duties of public health and other local government officials and work with them. Demonstrations and campaigns for promoting various branches of the public health should always be conducted with the end in view of turning over work which has been proved feasible and desirable to the appropriate officials. The prolonged and permanent assumption of governmental functions by unofficial bodies, when and if the governing officials are financially and personally able to undertake them, is in my opinion a mistaken policy and one which inevitably must defeat the end sought; namely, to instruct a community as to its health needs and the officials of that community as to the methods by which they may best discharge their obligations toward the people whom they serve.

PUBLIC HEALTH AND THE MEDICAL PROFESSION

There should be no conflict between public health officials and the medical profession. The field of activity of the former is that of preventive medicine, and no one who has given any thought to the subject can doubt that largely in the same field must the medical profession find, in the future, its chief usefulness, public support, influence and satisfaction. Under the system of public health administration prevailing in this country, the general practitioner must be counted on to carry out the proved and accepted principles of preventive medicine. He should be a potential health official in his knowledge of such principles and in his willingness, when occasion arises, to put them into practice to the best of his ability. There is every reason to believe, that, while public health work has been a large factor in reducing the incidence of many infectious diseases which formerly fell into the

hands of the general practitioner and made up a good part of his practice, other fields of professional activity have been opened to him by the extension of official and unofficial public health work which have more than compensated him for the financial loss incurred for the benefit of the public health.

While the specialist in the various branches of medical science may prove of the greatest service in preparing the general practitioner to enter the new field of preventive medicine well equipped for a many-sided task, the former cannot be expected to do the actual work which entails at least a practical knowledge of most of the so-called specialties.

The tremendous growth of knowledge in the field of medical science during the last twenty-five years has created a problem in medical education, the solution of which is of paramount importance to the future of medicine. It would sometimes appear that the rank overgrowth of specialization and the failure on the part of modern medical schools to turn out well rounded general practitioners are a sign of despair of being able to meet the situation, and yet the number of general practitioners must be increased at the expense of the specialist and restored, if not quite to the former position as guide, counselor and friend to all who sought their advice, to a new and broader field of activity, that of preventive medicine. The public of today is clamoring for knowledge of how to keep well and, in its quest for light, is seeking the advice of many false gods.

Postgraduate medical courses, preferably given under the auspices and supported by the medical profession, are of fairly recent origin. Judging by the interest taken in them, especially by those physicians who have not ready access to large medical centers, they are filling a long felt need in keeping the general practitioner abreast of the times. These courses should be increased in number and efficiency throughout the whole country. Recognizing the growing demands on practitioners for knowledge of preventive medicine, the medical schools should, at the earliest possible moment, so rearrange their curriculums as to emphasize not only the importance of methods of specific prevention of disease, which heretofore has unwisely been regarded as the sole and peculiar prerogative of health officials, but should be prepared to turn out also graduates with a sound knowledge of the normal functions of the human body, reasonable ability to recognize departures from the norm and to give advice as to their correction, prevention and treatment. Such men will find ample opportunity for the exercise of their knowledge and, I believe, with adequate financial compensation. If we are to make any marked progress in maintaining and improving the health of the nation, their work is absolutely essential as an adjunct to that of public health officials. Unless we are willing to delegate to the state all matters having to do with the public health, and bring about thereby a kind of socialistic government and most undesirable paternalism, the medical profession must be prepared to do its part in the field of preventive medicine, and there is growing evidence that it is more than willing to do so.

HEALTH LEGISLATION AND CAMPAIGNS IN NEW YORK

As an evidence of the possibilities and value of cooperation between public health officials, nonofficial agencies and the medical profession, I may be permitted to give in closing, as an example, the campaign now being conducted in New York State under the slogan "No more diphtheria in the state by 1930." It is believed that with the active immunization, by toxin-antitoxin, of a large part of the children of the state, especially those of preschool age, this seemingly impossible task may come very near accomplishment. The campaign is being conducted under the leadership of the New York State and New York City commissioners of health, in cooperation with the state committee on tuberculosis and public health of the State Charities Aid Association, life insurance companies—frankly for business reasons—mayors and other city officials, the press, many churches and prominent individuals. It has the official indorsement of the state education department, the state medical society and the constituent county medical societies. The campaign could not possibly succeed without the participation of all these groups, the departments of health and education assuming responsibility for planning the campaign through their own staff, the local health officers and medical school inspectors; private organizations for supplying extra funds and personnel and arousing public interest and participation, and the medical profession for actually undertaking a large part of the work of immunization.

Another example of the value of cooperation is shown by the introduction in the 1926 state legislature of a radical measure[1] for the protection of the medical practice act against unqualified and unlicensed persons, who are overrunning the state. Notwithstanding the fact that its provisions place on the physicians of the state annoying duties, some financial outlay and actual curtailment of their rights and privileges now granted by the state, the law has received the indorsement of the great majority of the organized medical profession. Its enactment was made possible only by hard work on the part of the state education department, the state and city departments of health, and representatives of the state medical society and of unofficial public health agencies. Despite the cynical and oft repeated charge of the members of the numerous cults and of other charlatans who have violently opposed this measure as detrimental to their interests, and who have asserted that the medical profession is backing it purely as a matter of self-interest, I am very glad to believe that the only motive for this favorable attitude of state physicians is that of protection of the public health and their own loved and honored profession from the attacks of the motley rabble which, for its own selfish ends, seeks to destroy the confidence of the people in the proved truths of science and in those who alone can carry them into effect for the welfare and happiness of humanity—the legalized medical profession.

1. Signed by the governor following a public hearing, May 17, 1926.

The Significance of Greek Education.—The significance of Greek education lies in the fact that here first is found a developing conception and standard of life, consequently a conception of education which enlarges through successive periods and in which change is tolerated and development of the individual provided for. Growth or modification in social standards results from variation by individuals from formulated customs; progress comes where such variations are not only tolerated but seized on and made permanent if deemed serviceable. For the first time, then, in Greek education, is found a type in which the individual is neither unconsciously nor consciously suppressed. On the contrary, some expression of individuality is thought compatible with, even desirable for, social stability and welfare.—Monroe: A Textbook in the History of Education, p. 52.

IMPORTANCE OF EARLY DIAGNOSIS AND TREATMENT OF LARYNGEAL TUBERCULOSIS *

FRANK R. SPENCER, M.D.
BOULDER, COLO.

The successful arrest or cure of pulmonary, as well as laryngeal, tuberculosis depends largely on an early diagnosis and proper treatment. Almost every advanced, or moderately advanced, case of tuberculosis has passed through a curable stage. If the diagnosis can be made during this early, curable stage and proper treatment started, the patient has from seventy to eighty chances in a hundred of a permanent cure or, at least, of an arrest of the disease. Many patients suffer from failing health caused by pulmonary tuberculosis for from one to four years before the proper diagnosis is made. This is a serious reflection on the intelligence, training and diagnostic skill of followers of the healing art. Unfortunately, some of these, though they have an M.D. degree, do not avail themselves of modern diagnostic methods.

Most patients with early laryngeal tuberculosis complain only of a slight huskiness of the voice after getting up in the morning. This may be relieved by clearing the throat, by coughing or by talking. Later on it may be more persistent and last half or all of each day. The patient is conscious of a greater effort in talking, and realizes that the larynx becomes tired easily. If these "danger signals" are persistently ignored, marked hoarseness or even aphonia is a likely consequence. While it is true that we occasionally find advanced laryngeal lesions with almost a complete absence of subjective symptoms, as Solenberger [1] and others have previously mentioned, such exceptions to the rule do not justify negligence or delay in making an early laryngoscopic examination, by the indirect method, because as a rule this can be easily made for most patients. Mullin [2] has urged early laryngoscopic examination in all tuberculous patients. If necessary, a better view can be obtained, under moderate local anesthesia in adults, by making use of Jackson's or Mosher's direct laryngoscope, Lynch's suspension laryngoscope, or Haslinger's directoscope.

Vascular changes are frequent even before a positive laryngeal diagnosis can be obtained, and should suggest a complete and thorough examination of the lungs if this has not been made. The general pallor of the mucous membranes of the entire upper respiratory tract should draw attention at the first examination. Often pinkish red mottled areas dot the pale mucosa of the larynx. If the patient is coughing a great deal, the larynx may be hyperemic and, in cases of longer duration, congested. If the cough is not relieved by bed rest, rest of the voice (silence), sedatives, etc., the laryngeal irritation increases, and the danger of laryngeal tuberculosis is made greater. Dr. Emil Mayer says that he was led to suspect tuberculosis in a patient with mottled pale and pink areas of the soft palate.

Infiltration over the posterior laryngeal wall is a common early symptom and may be found with few, or even without any, subjective symptoms. If the infiltration becomes more extensive, subjective symptoms are usually present. Extensive infiltration of the arytenoids, false cords, and cushion of the epiglottis represents a more advanced stage of the disease. Infiltration of the arytenoids produces the so-called club-shaped deformity which has been designated as pathognomonic of laryngeal tuberculosis. However, this deformity can be produced by other diseases, such as syphilis, actinomycosis and carcinoma. The infiltration is often so slight that it is easily overlooked unless the laryngologist is a careful observer. A careless or hasty examination will hinder an early diagnosis. Thoroughness is absolutely essential.

Tuberculomas, or tuberculous granulomas, are irregular, pale, rough, more or less round, cauliflower-like tumor masses. These often spring from the anterior or posterior wall, the true or even the false cords. They resemble a papilloma and can easily be mistaken for one, especially if the examination ends with the lower border of the larynx. These tuberculomas are often only 1 or 2 mm. in diameter at first and may increase in size very slowly. If attached to the free edge of one of the cords, the tumor mass is usually easy to see; but if attached to the anterior wall, below the true cords, it can easily be overlooked.

Ulcers are usually superficial and are far more often chronic than acute. Tuberculosis is a disease which nearly always progresses very slowly, and this is particularly true of the early stages. In the late stages, the disease some times progresses very rapidly. Deep ulcers may form from extension of the superficial ones, but as a rule the breaking down of deep tubercles produces the deep ulcers. Ulcers rarely occur early, but superficial ulcers are more frequently seen than the deep. Spraying the larynx with a mild alkaline antiseptic helps to remove sputum. If this is followed by a spray of 1 or 2 per cent aqueous solution of fluorescein, the ulcers will be stained a light green, which makes them easier to recognize.

Edema has been called, by Sir St. Clair Thomson [3] and others, pseudo-edema. It occurs when the tubercles are either large enough, numerous enough, or both large and numerous enough to interfere with the blood and lymph supply to that part of the larynx. The arytenoids are particularly prone to edema, and often later the epiglottis. Edema of the epiglottis produces the so-called turban shape. Edema, if at all extensive, is a reasonable assurance that the disease has existed for many months in the larynx and indicates an advanced stage. There are, of course, some exceptions to this. If the edema is confined to one arytenoid, deep cautery punctures may prevent extension.

Nature tries to produce fibrosis as the best means of curing tuberculosis, so that extension of the disease often goes on hand in hand with the healing process. The ultimate outcome naturally depends on which one predominates: fibrosis or extension. Fibrosis usually forms part of the laryngeal lesion, if the disease has been present for any length of time, and can be recognized in the arytenoids and the epiglottis. Almost every healed or arrested larynx will also show fibroid changes. Areas of calcification, so common in the lungs, are found less frequently in the larynx post mortem. Carmody [4] says, "Where there is much scar tissue we may and frequently do have syphilitic infection."

* Read before the Section on Laryngology, Otology and Rhinology at the Seventy-Seventh Annual Session of the American Medical Association, Dallas, Texas, April, 1926.

1. Solenberger, A. R.: Prophylaxis of Laryngeal Tuberculosis, Tr. Am. Laryngol., Rhinol. & Otol. Soc. 18: 480-489, 1912.

2. Mullin, W. V.: Indifference of Laryngologist Toward Tuberculous Laryngitis and the Tuberculosis Problem, J. A. M. A. 75: 300 (July 31) 1920.

3. Thomson, St. Clair: Tuberculosis of the Larynx: Ten Years' Experience in a Sanatorium, London, His Majesty's Stationery Office, 1924.

4. Carmody, T. E.: The Treatment of Laryngeal Tuberculosis, Tr. Am. Laryngol., Rhinol. & Otol. Soc., 1921, p. 274.

Perichondritis, chondritis and necrosis all represent such advanced lesions that these are usually easy to recognize. Irregular notches in the epiglottis are not infrequent and represent the three stages or lesions just mentioned. Late lesions often make the diagnosis easier, but, unfortunately for the patient, the fatal termination is almost as easy to predict. The last few weeks or months of agony, caused by severe pain on swallowing, with the hunger, thirst and rapid emaciation which this pain produces, are a lesson not soon to be forgotten by any conscientious physician. A few suffering patients pleading for relief offer the strongest and most convincing argument I know of for an early diagnosis.

Any method or form of treatment is likely to fall far short of the mark unless the pulmonary disease receives proper consideration at the hands of a chest expert who is thoroughly trained and experienced in the diagnosis and treatment of pulmonary tuberculosis. Brown [5] advocates this. The roentgenologist renders valuable aid by taking stereoscopic roentgenograms of the chest, first, for diagnosis, and, secondly, for noting the progress from time to time. The bacteriologist aids greatly by making sputum examinations. The chest expert must also direct the bed rest, diet, general medication, etc., because the pulmonary disease must always receive first consideration. Dean,[6] Brown,[5] Minor [7] and others have advocated the importance of the pulmonary disease and the necessity for not disregarding this at any time. A complete general physical examination, and especially the examination of the chest, roentgenograms of the chest, serologic examinations, including at least the blood Wassermann test, urinalysis, blood count and sputum examinations should all be made before the laryngologist can decide the cause of the laryngeal lesion. Syphilis, tuberculosis and carcinoma have all three been found and diagnosed as present simultaneously in a patient by such able laryngologists as Beck and Pollock.[8]

In making the differential diagnosis, syphilis, actinomycosis, carcinoma, chronic catarrhal laryngitis, papilloma, granuloma, lupus and trauma, must all be excluded. Tuberculosis is rare in the larynx before the age of 20 and after 45. Syphilis is also found most frequently between 18 or 20 and 45. Actinomycosis may be found at almost any age; but it is rarely encountered except in farmers, stockmen, butchers and tanners. Carcinoma is rare before 40 or 45 years of age. Chronic catarrhal laryngitis is found most frequently in patients who use the voice a great deal and at almost any age. Papilloma is more frequent in children than in adults. Lupus is common in Europe, but rare in this country. Granuloma caused by trauma may occur at any age, but is more frequent in men than in women. Pain is usually not an early symptom of tuberculosis, syphilis and other laryngeal diseases; it occurs earlier, as a rule, with syphilis than with tuberculosis. The larynx is red more frequently when the laryngitis is caused by syphilis, carcinoma, chronic catarrhal laryngitis or actinomycosis than when caused by tuberculosis. Papilloma and granuloma are usually pale. Cough, with or without sputum, is nearly always suggestive of pulmonary tuberculosis. However, any laryngitis may produce cough, especially if there is an acute irritation. This acute irritation should always be allayed by rest and sedatives before one attempts to complete the diagnosis.

The general physical examination, roentgenograms of the chest, the Wassermann reaction, biopsy, age, occupation and history must all be taken into account in making the differential diagnosis.

Differential Diagnosis

Tuberculosis	Lupus	Syphilis	Carcinoma
Hoarseness rather early	Hoarseness rather late	Hoarseness rather early	Hoarseness quite early
Aphonia late	Aphonia quite late	Aphonia late	Aphonia early
Pain late	Pain very late	Pain quite early	Pain usually very early
Dysphagia rather early	Dysphagia late	Dysphagia quite early	Dysphagia very early
Odynophagia rather late	Odynophagia late	Odynophagia early	Odynophagia quite early
Sputum contains tubercle bacilli	Rarely any sputum	Rarely any sputum	Rarely any sputum
Wassermann negative	Wassermann negative	Wassermann positive	Wassermann negative
Biopsy shows giant cells	Biopsy shows giant cells	Biopsy shows Spirochaeta pallida	Biopsy shows carcinoma
Roentgenograms of chest positive	Roentgenograms of chest negative	Roentgenograms of chest negative	Roentgenograms of chest negative
History of pulmonary tuberculosis	Lupus often on face	History of syphilis	History of 3 preceding often negative
Age 20 to 45	Age 15 to 50	Almost any age	Most frequent past 40 years
Ulcers occur usually late	Ulcers less frequent	Ulcers very frequent	Ulcers occur late usually
Mucous membrane pale	Mucous membrane hyperemic	Mucous membrane hyperemic	Mucous membrane hyperemic
General health poor	General health often good	General health often good	General health often poor
Not benefited by anti-syphilitic treatment	Not improved by anti-syphilitic treatment	Improved by anti-syphilitic treatment	Not benefited by anti-syphilitic treatment

TREATMENT

Climate plays a very important part for those who can afford the change from their own home city. Edson [9] has emphasized the importance of climate. Fresh air and sunshine are not often available in the average large city except on occasional days or half days. High altitudes stimulate phagocytosis and thus increase the patient's resistance to the disease. This phagocytosis, combined with plenty of fresh air twenty-four hours each day, and sunshine at least a part of most of the days, makes the Southwest desirable for the treatment of both pulmonary and laryngeal tuberculosis. Sunshine and fresh air have a very desirable effect not only on the physical well being of patients, but on the mental well being too.

If there is pain, narcotics must often be used in some form, such as hypodermics of morphine, to allay the distress. Weak cocaine solutions of 2 or 3 per cent may be sprayed into the larynx just before a meal to allay pain. Twenty per cent chaulmoogra oil dropped into the larynx several times each week, or inhalation of compound tincture of benzoin from a croup kettle, helps some patients. If there is very much pain, injections of alcohol into the superior laryngeal nerve of either one or both sides will often give relief for a few weeks. However, these are all palliative remedies;

5. Brown, L.: General Measures in Treatment of Laryngeal Tuberculosis, Ann. Otol., Rhinol. & Laryngol. **30**: 904-911 (Dec.) 1921.
6. Dean, L. W.: Treatment of Tuberculous Laryngitis by Suspension Laryngoscopy, Ann. Otol., Rhinol. & Laryngol. **30**: 898-903 (Dec.) 1921.
7. Minor, C. L.: Laryngeal Tuberculosis from the Point of View of a Pulmonary Specialist, Ann. Otol., Rhinol. & Laryngol. **30**: 870-887 (Dec.) 1921.
8. Beck, J. C., and Pollock, H. L.: Multiple Affections of the Larynx, Tr. Am. Acad. Ophth. & Otolaryngol., 1920, p. 215.
9. Edson, C. E.: Climate in Treatment of Laryngeal Tuberculosis, Ann. Otol., Rhinol. & Laryngol. **30**: 888-897 (Dec.) 1921.

they should not be used if curative treatment can be carried out. Palliative remedies are often helpful as an aid or as an adjunct to curative treatment during some stage of the disease.

In the early stage of the laryngeal disease, absolute silence is best, even though it is rather severe at first, from the patient's point of view. Whispering may accomplish the desired result, but the privilege of whispering is apt to be abused. If allowed to whisper, patients are likely to talk. A pencil and scratch pad often serve the purpose better than whispering. Each patient presents an individual problem in this respect, and what will do for one will not do for another.

Heliotherapy offers one of the best methods of treatment: first, because the sun's chemical or actinic rays are curative, and, secondly, because this treatment can be used by the patient and serves as an occupational therapy as well. At the beginning the treatment should be supervised by the laryngologist or by a nurse skilled in this work. Forster,[10] Chapman[10] and their associates have perfected a solar laryngoscope which permits the chemical or actinic rays to reach the larynx. Glass has been done away with, because it absorbs almost all except the heat rays. The Verba solar laryngoscope is so made that it can be attached to the back of a chair or to the patient's bed, but the chair is better. With a little practice, most patients become quite expert in directing the sun's rays into the larynx. A patient is able to get a good view of his own larynx, and this gives him greater interest in what the laryngologist is trying to accomplish, and thus he becomes more cooperative. At first the larynx should be exposed for one-half minute each day for a week, but after gradual increase of the length of each treatment, over a period of several weeks, the larynx will tolerate a ten minute exposure each day or even twice each day. Some patients do well if the larynx is exposed for twenty minutes twice daily. Heliotherapy is more effective than irritating applications to the larynx and is objected to much less by the patient. It should be used more than it is.

Lactic acid, in strengths of from 5 to 30 per cent aqueous solution, is useful for application on a cotton wound applicator to ulcers. Deep ulcers are rarely cured, but small superficial ulcers can sometimes be caused to heal by a few applications made at intervals of from seven to ten days. The larynx should be cocainized before the application is made. Applications frequently repeated often do more harm than good. Sir St. Clair Thomson[3] does not write very favorably of lactic acid and other irritating laryngeal applications.

Solution of formaldehyde in from 1 to 5 per cent aqueous dilution is preferred by some to lactic acid and has been used on good authority. I myself prefer lactic acid, although I use even lactic acid less and less frequently.

The cautery is the best single method of treatment we have to date. Its value cannot be disputed. Small infiltrations rarely require treatment other than rest. A large infiltrated arytenoid usually requires one or two punctures with a sharp cautery point. Superficial ulcers that have not responded to other methods will often heal promptly if cauterized. Deep ulcers should be cauterized, if anything is to be done at all. Tuberculomas should be removed by suspension, and then the base should be cauterized. Areas of pseudo-edema usually respond well to the cautery. Dean[9] and Arrowsmith[11] prefer to cauterize by suspension, while Sir St. Clair Thomson[3] and Greene[12] prefer the indirect method.

If the greater part, or all, of the larynx is involved by ulcers, whether superficial or deep, by pseudo-edema, perichondritis, chondritis or necrosis, usually any and all methods of treatment are of no avail. This, of course, only serves to emphasize again the importance of early diagnosis and treatment. Extensive laryngeal involvement does not always mean extensive tuberculosis of the lungs, but it is very apt to, and it nearly always means a fatal termination. Almost any laryngologist of experience has seen in his own practice, or that of some colleague, an arrested late case of laryngopulmonary tuberculosis. However, such examples are entirely too rare to justify procrastination in making an early diagnosis and carrying out proper treatment.

The cautery point should be used at a white heat and should be gently, but firmly, plunged into the area to be cauterized. At a red heat the eschar adheres to the cautery and leaves a bleeding wound. The object in using the cautery is to produce fibrosis and not to destroy the tubercle totally at the time. Total destruction is unnecessary and is too radical to yield the best results in an organ as delicate as the larynx. Local anesthesia, when thoroughly and systematically carried out, is usually very satisfactory. General anesthesia is but rarely required. Ether must always be avoided, because it is too irritating to the lungs. Nitrous oxide and oxygen are preferable if a general anesthetic is to be used at all.

Local anesthesia can be produced best by the hypodermic administration of morphine, from one-sixth to one-fourth grain (10 to 16 mg.), one hour before the time set for the cauterization. Sodium bromide, 20 grains (1.3 Gm.), taken by mouth may serve the purpose, but is less certain in its action. A 10 per cent aqueous solution of cocaine will produce excellent anesthesia. It should be cautiously applied and not sprayed into the larynx. I like to anesthetize with Bruenings' laryngeal syringe. This has a straight cannula for direct, and a curved cannula for indirect, administration. The cannulas are perforated at several places near the tip and at the tip. The ends are milled so they can be wrapped with cotton. Every few minutes a few drops of the freshly prepared cocaine solution can be forced, from the syringe, through the cannula into the cotton for additional applications to the larynx. At first it is best to swab gently the epiglottis, pharynx, hypopharynx and rim of the larynx with the cotton-tipped cannula, being sure that the cotton is kept saturated with the cocaine solution. As soon as there is superficial anesthesia, deeper anesthesia can be produced by dropping the solution into the larynx while the patient says "Ah." While the entire larynx should be well anesthetized, the parts previously selected for cauterization should receive more cocaine than the rest of the larynx. From fifteen to twenty minutes' time can be profitably spent in producing anesthesia. After a wait of from fifteen to twenty minutes, following the last application, the cautery can be applied, as a rule, without any difficulty. Nervous, apprehensive patients may require more morphine, more cocaine, or both.

10. Forster, A. M., and Chapman, S. J.: Heliotherapy in the Treatment of Tuberculous Laryngitis, Colorado Med. **22**: 90-93 (March) 1925.

11. Arrowsmith, H.: Present Day Aspects of Laryngeal Tuberculosis, New York M. J. **106**: 245-248 (Aug. 11) 1917; Tr. Am. Laryngol. A. **35**: 282-290.

12. Greene, J. B.: The Electrocautery in the Treatment of Laryngeal and Pharyngeal Tuberculosis, Am. Rev. Tubere. **10**: 73 (Sept.) 1924.

Reassurance that there will not be any pain inflicted often helps a nervous patient.

Amputation of the epiglottis, for epiglottidean tuberculosis, affords some patients gratifying relief from severe pain occasioned by swallowing. Patients for this operation must be very carefully selected, and the operation must be done reasonably early if any real good is to be accomplished. The patient with little or no involvement of other parts of the larynx than the epiglottis is usually the one best suited for this operation, according to Lockard.[13]

Anesthesia should be produced just as recommended for cauterization, except that more of the cocaine should be applied about the base of the tongue and epiglottis, and less to the interior of the larynx.

The epiglottis may be amputated by either the direct or the indirect method as the laryngologist prefers. Punch forceps, the cold-wire snare, and the cautery snare have all been recommended and used. The punch forceps used by the indirect method are quite satisfactory.

CONCLUSION

An early diagnosis of tuberculosis of the lungs and larynx is just as important as an early diagnosis of carcinoma of the larynx. Each patient should be thoroughly studied and examined before the diagnosis is completed if we expect to lessen materially the appalling death rate of tuberculosis. Modern diagnostic methods not only make an early diagnosis possible and often easy, but make an early cure more certain. To wait for late signs and symptoms is unpardonable.

Physicians' Building.

ABSTRACT OF DISCUSSION

DR. HILL HASTINGS, Los Angeles: I have come more and more to rely on the pale in filtration areas in the larynx rather than on acute redness. The place where I find them most frequently is at the posterior commissure. In all lesions of the larynx the thing that impresses one for or against a good prognosis is the condition of the patient. A tuberculous larynx does not cause death, as a rule. Of course, third stage tuberculous cases are hopeless so far as the epiglottis is concerned. I have seen patients in the second stage of tuberculosis who had developed good resistance in whom the epiglottis frequently without pain would melt away, leaving a good scarred stump. We do no surgical work for such patients. In my practice we do less and less surgery for tuberculosis of the larynx. Rest seems to be the main thing. It is surprising how many tuberculosis sanatoriums do not have a competent laryngologist to examine patients. That should not be the case. Early diagnosis cannot be made in general practice; it must be made in a sanatorium. Laryngologists should seek positions on staffs and help in making early diagnoses.

DR. JOSEPH C. BECK, Chicago: While I do not treat many cases of tuberculous laryngitis, the work of Wesely in the Vienna clinic in the use of the carbon light has revealed a method of treatment that I would not have believed if I had not tried it myself. Cases almost as bad as the one in which Dr. Hastings said he would not do surgery have been sent to me for injection of the superior laryngeal nerve. I gave treatment with the carbon lamp. The actual results were astonishing. Another thing I want to refer to is multiple infection—cancer, syphilis and tuberculosis. I have had come under my observation cases of laryngectomy performed on a tuberculous patient who had neither cancer nor syphilis, only tuberculosis. Biopsy should be done to prove there is no cancer, regardless of the bugaboo that biopsy in cancer spreads the disease.

13. Lockard, L. B.: Epiglottidectomy: The National Treatment of Epiglottidean Tuberculosis, Tr. Am. Laryngol. A. 1911, p. 29.

DR. W. V. MULLIN, Cleveland: If any one will spend one-third the time making sketches that Dr. Spencer has put in completing these slides, he will have no difficulty in making a diagnosis. Tuberculosis of the larynx is difficult to diagnose, except in the advanced case. Dr. Spencer has given us the best set of slides available in America today. Of course, Dr. Spencer did not have time to emphasize all the points. I am sure that he believes in heliotherapy. I think it is one of the best aids, in connection with rest, in the treatment of laryngeal tuberculosis. I am sure that Dr. Spencer would not want us to have the idea that just as soon as he makes a diagnosis he gets out his suspension apparatus and cauterizes or removes the epiglottis. They are given careful study from the general and local standpoint. I am in accord with Dr. Hastings—I never got any results from the removal of the epiglottis. I long ago ceased to do it. One thing Dr. Spencer did not emphasize was the classification of his cases in relation to their general condition to which the tuberculous laryngitis is secondary. The primary condition is general tuberculosis, and the seriousness of the secondary tuberculous laryngitis will likely depend on the general condition. I do not think Dr. Spencer emphasized enough the injection of the superior laryngeal nerve in these painful cases. But rest and heliotherapy are very important.

DR. M. D. BROWN, Denver: The important thing in the treatment of laryngeal tuberculosis is rest, and we institute at the sanatorium a procedure which is not well recognized and has not been followed to a great extent and that is gastrostomy. We have performed this operation seven times. One patient lived only a few hours; several others lived for months, and one patient more than a year. We were able to give these patients absolute rest of the larynx. Dr. Spencer did not bring out the amount of pain suffered by these patients. Most of them have, in addition to the laryngeal tuberculosis, a very extensive pharyngeal tuberculosis, and that is very painful. In tuberculous cases one must keep up the patient's resistance. If unable to eat on account of severe dysphagia, they must be fed. In one case we had a gastrostomy tube in place for a year. That patient gained about 35 pounds (16 Kg.) and was perfectly comfortable. But, if we are going to do these patients the greatest good, we should do the gastrostomy early, and not wait until there is extensive ulceration of the epiglottis and arytenoids and all that.

DR. FRANK R. SPENCER, Boulder, Colo.: Injection of the superior laryngeal nerve is of benefit in relieving pain, but it is not a cure. This is probably the best palliative treatment, as it often gives relief for ten days or two weeks. Amputation of the epiglottis should be done early. The first time I did an amputation of the epiglottis was in a late case, and the patient died the next day. Since then I have been much more cautious. I appreciate what Dr. Dean said several years ago, that we must not resort to surgery of the larynx unless we have the assurance of the internist that the patient's condition will permit surgery. All of the patients from whom the slides that I have just shown were made have been subjected to thorough study by internists. They have all had roentgenograms of the chest made and they have had Wassermann tests made. Each and every patient has been thoroughly studied from every point of view, as other diseases may be present.

Origin of Magnetic Therapy.—The notion that magnetism was a force capable of influencing the human body, and of being used for curative purposes, is found far back in the history of medicine, but it was in the seventh century that it became elaborated and systematized. In 1608 Rudolph Goclenius, a follower of Paracelsus, wrote of the magnetic treatment of wounds. The general curative powers of magnetism were described by Athanasius Kircher in 1643, and in 1679 William Maxwell produced a comprehensive account of magnetic therapy in which he propounded the theory that all disease is due to the withdrawal of vital fluid from the organs and can be remedied by restoring the necessary magnetic force. The theory of animal magnetism was therefore actually in existence long before the time of Mesmer, although its origin is often erroneously ascribed to him.—Hart, Bernard: *Lancet* **1**:587 (March 20) 1926.

UPPER RESPIRATORY INFECTION AS A CAUSE OF CHOLERA INFANTUM *

PHILIP C. JEANS, M.D.
AND
MARK L. FLOYD, M.D.
IOWA CITY

A syndrome described under such titles as cholera infantum, alimentary intoxication and anhydremia has long been known. No universal agreement seems to exist as to etiology. In general, parenteral infection has been credited with merely a minor rôle. Some authors mention that the condition may possibly be due to parenteral infection, while others are of the opinion that such infection only ushers in the condition by lowering the patient's resistance. That parenteral infection bears a relationship to gastro-intestinal disturbances is well recognized, but that it may be a direct cause of this most severe type of disturbance has been emphasized only recently.

About a year ago, almost simultaneously, one of us [1] and Marriott [2] recorded observations to the effect that a direct relationship may exist between a certain type of acute mastoiditis and "cholera infantum." At the same time the other of us [3] stated that the same clinical picture may be produced by acute paranasal sinus infection. Our purpose in this paper is to call further attention to mastoiditis and nasal sinusitis as causes of "cholera infantum" and to record further evidence, particularly in regard to sinus disease, that these infections are at least a common cause of the clinical picture.

We are not prepared to state that infections at these sites constitute the sole cause of "cholera infantum," though it is a strange coincidence that, since we became

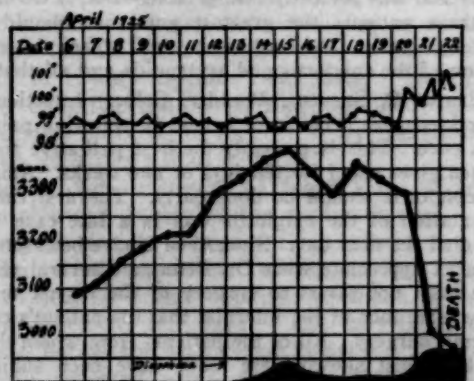

Chart 1 (case 1).—Death from "cholera infantum": right maxillary sinusitis found at necropsy.

aware of this relationship, all the cases of this affection observed by us have had upper respiratory infections as the apparent underlying cause. Our first knowledge of this relationship was gained through necropsies. In a number of instances of death from what seemed to be "cholera infantum," the only pathologic findings of importance were in connection with either mastoiditis or nasal sinusitis. That this is more than coincidence has been shown definitely in numerous instances by the exceedingly prompt recovery from the constitutional disturbance on the establishment of drainage from the site of infection. A further important feature in these cases has been that the infection is seldom obvious and is usually well hidden.

REPORT OF CASES

CASE 1.—A boy, aged 14 days, came under observation for normal feeding. Except for a purulent nasal discharge, the examination was negative. During the succeeding twenty-two days the patient thrived as would a normal child. Though the nasal discharge persisted, it drained well. A cessation of weight gain lasting five days was followed by an abrupt loss of 300 Gm. in one day. Moderate diarrhea, noted with the first disturbance in weight, became aggravated simultaneously with the acute weight loss. The condition at this time was grave, since he had rapidly become dehydrated and toxic. Since the ear drums showed a pink color, bilateral myringotomy was done. No drainage resulted. Large amounts of salt solution were administered, but the diarrhea and weight loss continued and the patient died on the following day. Necropsy revealed only a right maxillary sinusitis, thick pus being found.

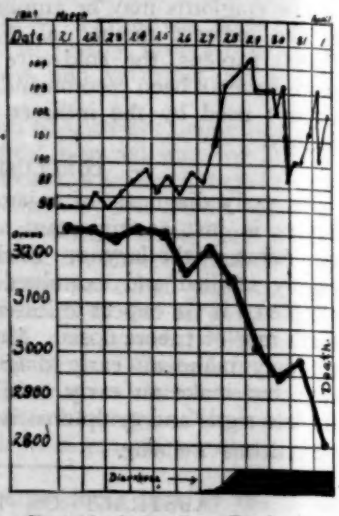

Chart 2 (case 2).—Death from "cholera infantum": bilateral mastoiditis found at necropsy.

CASE 2.—A boy, after a week of stationary weight, began to lose weight rapidly. The temperature began to increase coincidentally with the beginning of the weight loss. In three days, 270 Gm. was lost, the temperature had reached 104 F., and diarrhea had by this time appeared. The ears were examined and the left drum incised, a small amount of pus draining. The patient had become greatly dehydrated, and he remained so despite the frequent administration of fluid. Diarrhea and weight loss continued. The patient died five days after the appearance of the acute symptoms. At necropsy both middle ears and mastoid antrums were filled with thick, creamy pus; the nasal sinuses were normal.

CASE 3.—A girl had been thriving well until, at 2 months of age, she suddenly began to lose weight. During the first three days of this illness the temperature varied from 99 to 101 F., and 320 Gm. was lost, though no bowel disturbance was evident. A day of improvement was followed by three days of more serious illness. Diarrhea became marked, the temperature rose to 104 F., and 570 Gm. was lost. The patient became dehydrated, drowsy and ashen. Fluids administered parenterally did not influence the weight loss. On the third day of the more serious illness, examination of the ears revealed a sagging of the posterior superior canal walls. The tympanic membranes showed no definite pathologic changes. Without a preliminary myringotomy, a bilateral mastoidectomy was performed. There was thick pus under pressure in the left mastoid antrum, but none in the tympanic cavity. There was a small amount of pus in the right mastoid antrum. The illness terminated abruptly. Diarrhea ceased, the weight gain indicated the retention of parenterally administered fluids, evidences of dehydration and intoxication disappeared, and by the eleventh day after operation, all lost weight had been regained.

CASE 4.—A boy had been thriving. At the age of 1 month, without apparent cause, his weight became stationary for a few days and then, coincident with the onset of diarrhea, it decreased abruptly, the patient losing 450 Gm. in five days.

* From the Department of Pediatrics, State University of Iowa College of Medicine.
* Read before the Section on Diseases of Children at the Seventy-Seventh Annual Session of the American Medical Association, Dallas, Texas, April, 1926.

1. Floyd, M. L.: Masked Mastoiditis Simulating "Alimentary Intoxication" (Anhydremia), Arch. Oto.-Laryngol. 1: 411 (April) 1925.
2. Marriott, W. M.: Further Observations Concerning the Nature of Nutritional Disturbance, Tr. Am. Ped. Soc. 37: 38, 1925.
3. Jeans, P. C.: The Importance to the Pediatrist of Paranasal Sinus Infections in Infants and Young Children, Tr. Am. Laryngol. Soc., 1925; Am. J. Dis. Child. 32: 40 (July) 1926.

The acute illness was marked by the appearance of intoxication, the features becoming pinched and the color ashen. Drowsiness and lethargy were marked. Dehydration was such that considerable amounts of fluid were given parenterally in the attempt to prevent death. As many as nineteen stools were observed in a day. At the height of his illness he was found to have slightly reddened ear drums and a purulent nasal sinusitis. Nonoperative treatment was directed to the sinuses, and from that day the patient's condition improved. The diarrhea became less, and finally ceased abruptly when good drainage was obtained.

CASE 5.—A child, aged 2½ years, suddenly manifested diarrhea, fever and weight loss. In three days 500 Gm. had been lost, the temperature had risen to 108 F., and the patient had become comatose and greatly dehydrated. Examination revealed evidences of pus in the nasal sinuses, and a reddened but not bulging left tympanic membrane, with no bulging of the ear canal walls. The left mastoid was opened, but no pus was found. Removal of the adenoids was followed by the drainage of considerable pus into the nasopharynx. The subsequent improvement, with cessation of diarrhea and fever and the regaining of lost weight, took place in a remarkably short time.

CASE 6.—A patient came under observation with a purulent nasal sinus infection with fever. A weight loss of 530 Gm. occurred during the first five days of observation. Although the patient manifested drowsiness, pallor and dehydration, diarrhea was not present at any time. Following local, nonoperative nasal treatment, recovery from the illness was rapid.

INCIDENCE

The ages of these patients have ranged from 4 weeks to 1½ years, though the majority of them were seen in the neighborhood of 5 months of age. One patient, 2½ years of age, constituted the only exception to this statement. The condition is observed with greater frequency in those seasons in which respiratory infections are prevalent; i. e., late fall, winter and spring. It is encountered in the home as well as in hospital

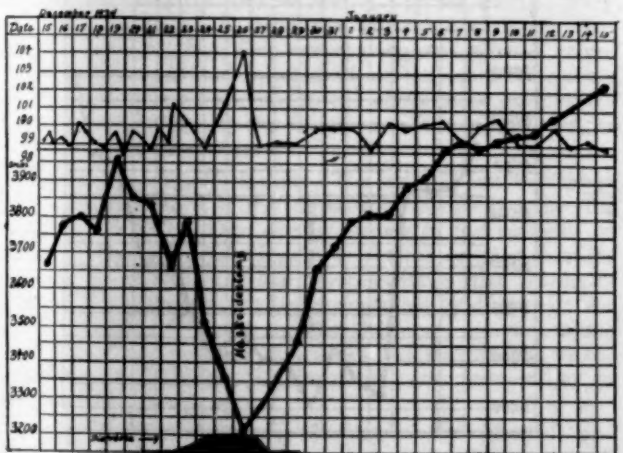

Chart 3 (case 3).—Case of "cholera infantum" in which mastoiditis was diagnosed; bilateral mastoidectomy was followed by prompt recovery.

practice. Many patients have been admitted to our wards with the clinical picture well established. Bottle fed babies seem much more prone to the condition than those breast fed.

THE UPPER RESPIRATORY INFECTION

Perhaps the most striking feature of the upper respiratory infection is its obscurity. In the case of sinus disease, nasal discharge is frequently lacking and superficial examination often reveals no pathologic condition. More thorough examination sometimes fails, and actual exploration has at times been necessary. In the case of mastoiditis, the casual observer will usually find no signs relating to the mastoid. Some redness of the drums is not infrequent. In our cases a few drums showed slight bulging, but when they were incised no drainage resulted; only occasionally did anything like free drainage follow myringotomy. Quite often the drums show no redness whatever. The sign of greatest value and one that is most constantly present is a sagging or bulging of the posterior superior canal wall. Dean [4] is of the opinion that this sign is to be observed in every case. However, others less experienced who have examined our patients have often failed to see it.

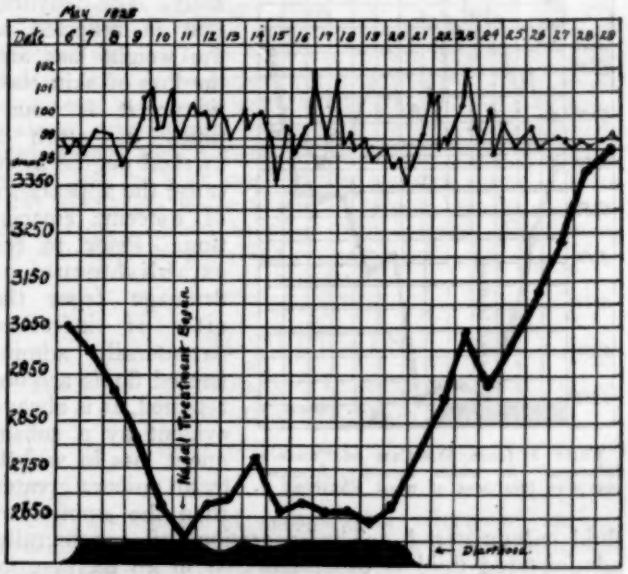

Chart 4 (case 4).—Case of "cholera infantum" in which recovery followed nonoperative treatment of nasal sinusitis.

In our cases the mastoiditis has been bilateral, with few exceptions. We have observed only one case in which myringotomy had any appreciable effect on the constitutional disturbance; in this case, good drainage resulted and recovery followed. We have also observed one instance of "cholera infantum" which seemed to be due to sinus infection and in which recovery occurred without special treatment, apparently as the result of the spontaneous establishment of drainage. We have observed a few cases in which the underlying cause of the disturbance proved to be infection both in the mastoids and in the nasal sinuses.

Many of these patients, by the time they are seen or their condition is diagnosed, have the appearance of being poor operative risks. It has been our experience that the risk is not to be lessened by delay, regardless of the character of the treatment in the interval, unless that treatment leads to drainage from the site of infection.

SYMPTOMS

The symptoms as recorded in the cases here reported and in other observed cases may be thus summarized:

The constitutional disturbance under consideration which we interpret to be "cholera infantum" is abrupt in onset, quickly becomes serious, and usually requires early supportive treatment to prevent a fatal termination before or during the treatment of the infection. The symptoms in general consist of a marked and rapid loss of weight, fever, diarrhea, dehydration and the appearance of intoxication. The intoxication is characterized by drowsiness or stupor and pallor with a

4. Dean, L. W.: Personal communication to the authors.

grayish hue; it may appear simultaneously with the fever or follow it in a few hours. The temperature curve is inconstant. When fever existed previously, a secondary increase may occur. Diarrhea usually parallels and coincides with the dehydration and weight loss. Sometimes the onset of diarrhea is slightly delayed, and in a few otherwise typical cases diarrhea has been absent. Usually there are from eight to twenty mucus-containing, foul smelling stools daily. The dehydration is reflected in the weight loss and the loss of skin elasticity: it is sometimes of such a marked degree as to cause the appearance of extreme emaciation. Prior to the establishment of drainage from the site of infection, parenterally administered fluids are not retained, as is always evident by a subsequent loss in weight by an amount greater than the amount of fluid administered. The excretion of parenterally administered fluid is often reflected in an increase in the diarrhea.

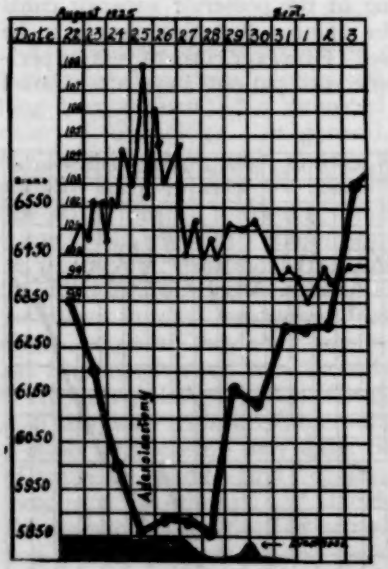

Chart 5 (case 5).—Case of "cholera infantum" in which recovery followed operative treatment of nasal sinusitis.

The blood leukocyte count has varied from 13,000 to 30,000 or more. Vomiting may occur throughout the course of the illness, with varying degrees of severity. Refusal of food is a fairly constant feature. Marked degrees of acidosis, as measured by the carbon dioxide combining power of the plasma, have been noted. The urine may at times contain casts and slight amounts of albumin; glucose has not been found.

The symptoms of the clinical condition under discussion, though in general the same, often show certain minor differences, depending on whether the condition is caused by mastoiditis or sinusitis. Independently of the otorhinologic examination, these differences often, but by no means always, permit a fairly accurate assumption as to which of these two sites is affected. When dependent on mastoiditis, the symptoms usually develop more abruptly and the patient rapidly becomes dehydrated and toxic; following mastoidectomy, the recovery is likely to be more rapid. When dependent on sinusitis, the period of illness usually is of longer duration; both the onset and the recovery are slower. The most serious symptoms are likely to be preceded by a few days of stationary weight and short periods of moderate diarrhea. The fever is often of a lower grade. Though the patient may not be actually failing during the prodromal period, suggestive shadows may be noted beneath the eyes. The most striking response to treatment is usually somewhat delayed. It seems probable that these differences depend entirely on the amount of drainage or lack of drainage. A sinus may be only partially blocked or partially drained, whereas a mastoid is likely to be completely free or occluded.

Parenthetically, we wish to call attention to certain cases which might be classed as chronic indigestion and in which the main features are stationary weight and an intermittent mild diarrhea with little or no fever. In such cases one quite frequently finds infected sinuses that are draining poorly. When proper drainage is obtained, diarrhea and other symptoms subside, whereas without drainage alterations of the feeding accomplish but little.

TREATMENT

The treatment of the constitutional disturbance here described should be directed primarily at the underlying infection. The discussion of this phase is left to the otorhinologists. When drainage has been established and the body fluids have been restored, the other features take care of themselves. In our cases no special feeding alterations have been made, nor do they seem indicated. During the acute stage of the illness, when the digestive capacity is low, usually but little food is taken; such as is taken does not seem to aggravate the diarrhea. During recovery, the ability to take care of food and the desire for food seem to increase simultaneously.

SUMMARY

There is a relationship between upper respiratory infection and a clinical picture corresponding to what has been described under the term cholera infantum. In recent years all patients presenting this clinical picture who have come under our observation have had either mastoiditis or paranasal sinusitis or both as the apparent underlying cause of their disturbance. The infection seldom is obvious, while the gastro-intestinal symptoms usually are prominent. The establishment of adequate drainage from the site of infection brings about prompt and complete recovery.

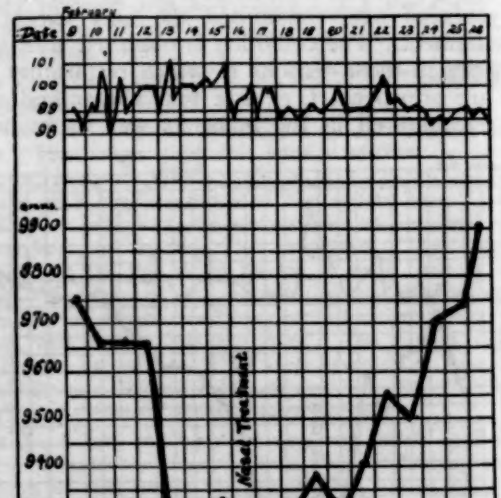

Chart 6 (case 6).—Dehydration and intoxication without diarrhea in which recovery followed nonoperative treatment of nasal sinusitis.

Children's Hospital.

ABSTRACT OF DISCUSSION

DR. E. C. MITCHELL, Memphis, Tenn.: Disorders of this type must vary somewhat, depending on the locality, climatic conditions and the environment in which one is located. In Memphis, from October 1 until May 1, more than 90 per cent of cases of alimentary intoxication are undoubtedly due to parenteral infection. In the summer, the majority of cases are due to chemical intoxication from food or from true

enteral infections, both the specific type or the true dysentery, or the nonspecific form of colitis. However, even in the summer we may have parenteral infection. A child, aged 15 months, admitted to the hospital during the time we were seeing many cases of true bacillary dysentery, had a number of bloody stools daily. Examination of the stools was negative for dysentery bacilli. The child grew worse rapidly. The rhinologist found red, bulging ear drums, which were incised. Mastoid symptoms developed. The mastoid was drained, and the child began to improve and made an uneventful recovery. The authors state that in recent years all their cases have been due to either sinus or mastoid infection. It is still our experience that in order to clasify our so-called alimentary intoxications we must consider food intoxications and infections both enteric and parenteral. I am glad that the authors state that they do not attribute all cases of alimentary intoxication to this type of parenteral infection, as I fear that the good points in the paper might have been overruled by this statement and an erroneous impression gained. I cannot consider drainage of the mastoid as a minor operation, and I fear that unless a careful analysis is made in each case, many mastoids would be drained uselessly. The salient point in this paper is the fact that this type of infection sometimes does produce cholera infantum, and that unless careful and routine examination is made this condition is overlooked.

Dr. John J. Shea, Memphis, Tenn.: In connection with Dr. Mitchell we have been following the sinus work in children for many years and have collected sufficient data to warrant us to continue in this work. The diagnosis is very difficult to make and really demands a little imagination. One cannot find clinically much evidence of sinus disease, nor does one find typical signs of mastoid disease. Unfortunately, roentgen-ray examination is made of a skull and not of the sinuses. The second point is to wash the antrum if it is a sinus infection, and the technic of washing the antrum which we follow is that of Dr. Thiels. The material must be obtained from the washing. These children do not have the acute empyema of the antrum that is seen in adults. They show mild changes. If clinicians will impress on the otorhinologists with whom they are working that there is something of importance in this, we shall not hear such statements as that made by an instructor in one of the large universities the other day—that all the instruments for sinus work in children should be junked.

Dr. John L. Morse, Boston: The point is not that when there is a diarrhea it is due to mastoid disease, because the chances are that it is not due to disease of the mastoids or sinuses. The important things to remember are that diseases of the mastoids and sinuses are more common than is usually realized, and that they may be accompanied by diarrhea. We ought to go away, not with the idea that every diarrhea is due to disease of the mastoids or sinuses, but that disease of the mastoids and sinuses is sometimes accompanied by a secondary diarrhea.

Dr. H. J. Gerstenberger, Cleveland: Dr. Mitchell and Dr. Morse expressed the views of many of us. The statement that these infants, when they are in this serious state, may take any kind of a food without any risk should not be allowed to pass without objection. If the infant is as sick as he is stated to be, then his diet should be restricted. He should not take a diet as high in calories as does the well infant, and he should be treated generally as a sick infant. To give to such an infant whole milk or two-thirds milk or even whole lactic acid milk with sugar, in my experience, would be a mistake.

Dr. Jules M. Brady, St. Louis: I should like to stress the fact that infection in any part of the baby's body may be accompanied by diarrhea. Frequently the mother will bring her baby with diarrhea, and say, "My baby has a cold in its bowels." I often think to myself that that mother had the proper conception of the condition. Whether a baby develops a diarrhea with infection will depend on several things: the previous condition of the baby; the constitution of that baby; the kind of infection, the virulence of the infection, and the kind of food the baby is used to eating.

Dr. H. F. Helmholz, Rochester, Minn.: Were any cultural studies made in this case?

Dr. F. P. Gengenbach, Denver: It seems to me that the author made a rather pointed remark when he said that practically all of his patients were artificially fed babies. If the initial cause of diarrhea is in the sinuses, why should there not be diarrhea more frequently in breast fed infants, too, despite their increased resistance to infection? They also have frequent head colds.

Dr. M. L. Floyd, Iowa City: We have observed a few patients whom one might term "half-way" cases, the outstanding features being stationary weight and intermittent diarrhea with no fever. By intermittent diarrhea we mean that on one day the patient will have from five to ten bowel movements, and on the following day a normal number. After drainage or treatment of the upper respiratory infection is accomplished, these patients would abruptly begin gaining in weight and the daily stool number becomes normal. There were no changes in the feeding. Cultures have given us no information. Results have not been uniform. From some surgical cases the growths have been sterile.

MERCURIALS

A PROPOSED METHOD OF LABORATORY EVALUATION AND CLASSIFICATION *

JOEL B. PETERSON, Ph.D.
CHICAGO

Our knowledge of comparative effects of various antiseptics or germicidal substances is still inconclusive. The method whereby their efficiency is compared to that of phenol (carbolic acid) has been valuable, in the case of phenol-like compounds, though even here the results are not in any manner as reliable as many seem to believe. When the phenol coefficient is applied to other antiseptic agents, the results are often far from indicating the real bacteria killing power of the product and frequently lead to confusion.

Among the preparations used today for antiseptic and germicidal effects, those containing mercury form an important class. These preparations range in composition from the well known and long used mercuric chloride to highly complex synthetic organic compounds such as mercurochrome-220 soluble.

The phenol coefficient is used by some to classify these and other antiseptics. As workers find it difficult to check one another for the phenol coefficient on phenol compounds, it is logical to suppose that more trouble would be experienced with nonphenolic compounds. The fact is that phenol coefficients for nonphenolic compounds are not reliable, and confusion has been the result. Obviously, therefore, a simpler method for the classification of mercurials, such as inhibiting action on a well known organism, one that would give more nearly concordant results, would be valuable.

In this paper are reported results of certain work that may have bearing on the laboratory evaluation of mercury compounds.

In the classic work of Pilcher and Sollmann,[1] the silver protein preparations were satisfactorily classified according to the silver ion concentration. The measurements were made by the Dreser[2] yeast method. Their

* From the American Medical Association Chemical Laboratory.

1. Pilcher, J. D., and Sollmann, Torald: J. Lab. & Clin. Med. 8: 301 (Feb.) 1923.
2. Dreser, H.: Ztschr. f. exper. Path. u. Therap. 19: 283, 1917.

classification has received confirmation in the report of Smith and Giesy,[3] who used an entirely different method.

It was suggested by Dr. P. N. Leech that an adaptation of the Pilcher-Sollmann-Dreser method might be of value in classifying the mercury preparations. It was found practicable to do this. The method was also of interest in that it was capable of throwing some light on the activity of the molecules exclusive of the mercury.

Briefly, the method consists in determining the smallest quantity of drug that will prevent the formation of gas in a yeast-sugar mixture of definite strength during a period of one hour. To correct the variations in yeast activity, adequate controls were employed, using mercuric chloride as the standard for comparison; similar physical conditions were maintained; like quantities of the yeast sugar mixture were used. These controls make the results comparable notwithstanding the fact that the commercial yeast used does not represent a pure yeast culture.

The actual test solutions were made by mixing 2 cc. of a 50 per cent sucrose solution with the desired amount of the drug and sufficient water to make the volume 8 cc. Finally, a 2 cc. portion of 20 per cent yeast suspension ("Fleischmann's Yeast" being used) was added; the whole was shaken and poured into a test tube 10 cm. long and 1 cm. in diameter. A test tube 15 cm. long and 2 cm. in diameter was slipped over the open end of the smaller tube and the whole quickly inverted. The linear distance from the end of the small tube to the surface of the liquid was carefully measured. After the tube had been kept at exactly 38 C. for one hour, this distance was remeasured. The tests of quantitative importance were those containing the smallest quantity of drug that yielded practically no carbon dioxide. The substances chosen for the work are given in Table 1.

In the course of the investigation it was deemed necessary also to determine approximately the p_H value of a duplicate of each solution, as any marked alkalinity should decrease the amount of carbon dioxide that would be given off. This was done by means of the hydrogen electrode, or, when that was impossible, by means of indicators. It was found as an interesting observation that the yeast acted as a buffer and that although some solutions without the yeast were markedly alkaline, a fairly constant p_H was obtained when the yeast was added. Indeed, the p_H of each freshly made solution containing yeast fell between 4 and 7.6. The results are reported in table 2.

TABLE 1.—*Substances Chosen for the Work*

Trade or Common Name	Chemical Name	Manufacturer or Distributor
Mercuric chloride*	Mercuric chloride	J. T. Baker Chemical Company
Mercuric bromide*	Mercuric bromide	Central Scientific Company
Mercury succinimide*	Mercuric salt of succinic acid imide	Merck & Company
Mercuric potassium iodide*	Mercuric potassium iodide	Merck & Company
Metaphen	2,4 bisacetoxy mercuri 3 nitro 0 cresol	Dermatological Research Laboratories
Subiamine	Mercuric sulphate ethylenediamine	Schering & Glatz
Mercuric oxycyanide*	Mercuric oxycyanide	New York Intravenous Laboratories
Meroxyl	0 (2,4 dihydroxy 3.5 dihydroxy mercuric benzoyl) sodium benzene sulphonate	Hynson, Westcott & Dunning
Mercuric cyanide*	Mercuric cyanide	Mallinckrodt Chemical Works
Mercuric benzoate*	Mercuric benzoate	Powers Weightman Rosengarten Company
Mercurochrome-220 soluble	Disodium di brom hydroxy mercuri fluorescein	Hynson, Westcott & Dunning
Flumerin	Disodium hydroxy mercurifluorescein	Hynson, Westcott & Dunning
Mercurosal	Disodium hydroxy mercurisalicyl oxyacetate	Parke Davis & Co.
Mercury salicylate*	Mercuric salicylate	Mallinckrodt Chemical Works
Afridol	Sodium hydroxy mercuri toluylate	Bayer Company, Inc.
	3 nitro 0 cresol sodium salt	Dermatological Research Laboratories
Fluorescein sodium salt*	Fluorescein sodium salt	Coleman & Bell Company
	Sodium salicyl acetate	Parke Davis & Co.
	0 (2,4 dihydroxy benzoyl) ammonium benzene sulphonate	Hynson, Westcott & Dunning
	Sodium dibrom fluorescein	Hynson, Westcott & Dunning
	Sodium tetra brom fluorescein	Eastman Kodak Company
Methyl violet*	A mixture containing mainly pentamethyl rosaniline chloride	National Aniline & Chemical Company, Inc.
Gentian violet*	Mixture of hexamethyl and pentamethyl pararosaniline chlorides	National Aniline & Chemical Company, Inc.
Crystal violet*	Hexamethyl pararosaniline chloride	National Aniline & Chemical Company, Inc.

* Nonproprietary preparations.

TABLE 2.—*Results*

Substance Employed	Inhibitory Amount, Gm.	Equivalent to One Part In	Efficiency as Compared with Mercuric Chloride as 1	Weight of Mercury Inhibitory Dose, Gm.	Relative Efficiency to Mercuric Chloride for Equivalent of Mercury	p_H
		CLASS 1				
Mercuric bromide	0.0004	25,000	1.25	0.000222	1.7	4-5.2
Mercuric chloride	0.0005	20,000	1.00	0.000389	1.0	4-5.6
Mercury succinimide	0.00085	11,760	0.58	0.00042	0.88	4-5.2
Mercuric potassium iodide*	0.0012	8,333	0.41	0.000306	1.2	4-5.6
Subiamine	0.0018	5,555	0.27	0.0007	0.52	5.2-6
Metaphen	0.0017	5,882	0.29	0.00101	0.36	4-5.6
		CLASS 2				
Mercuric oxycyanide	0.0076	1,315	0.065	0.0065	0.056	4-5.2
Meroxyl	0.012	833	0.041	0.0066	0.055	5.2
Mercuric cyanide	0.0155	645	0.032	0.0123	0.03	4-5.2
3 nitro 6 cresol sodium salt; intermediate of Metaphen	0.016	625	0.031	.....	.....	6.8
Mercuric benzoate	0.0266	376	0.018	0.0070	0.053	4-5.6
		CLASS 3				
Mercurochrome 1	0.065	153	0.0071	0.0176	0.021	5.9
2	0.06	166	0.0083	0.0163	0.022	
3	0.06	166	0.0083	0.0163	0.022	
4†	0.01	1,000	0.05	0.0027	0.13	
Mercurosal	0.09	111	0.005	0.0406	0.0091	6-7.6
Flumerin 1	0.1	100	0.005	0.0346	0.01	6.2
2	0.1	100	0.005			
Fluorescein sodium salt	0.55	18	0.0009	.....	.....	7.65
		CLASS 4				
Afridol	Inhibiting power very weak	.....	.....	.....	.....	...
Mercuric salicylate	Inhibiting power very weak	.....	.....	.....	.....	...
Sodium salicyl acetate	Inhibiting power very weak	.....	.....	.....	.....	...
0 (2,4 dihydroxy benzoyl) ammonium benzene sulphonate (intermediate of meroxyl)	Inhibiting power very weak	.....	.....	.....	.....	...
Di brom fluorescein sodium salt	Results not definite					
Tetra brom fluorescein sodium salt	Results not definite					
Crystal violet	0.0024	4,166	0.208	.....	.....	5
Gentian violet	0.0039	2,564	0.128	.....	.....	5.1
Methyl violet	0.0051	1,960	0.098	.....	.....	5.5

* Contains a small excess of potassium iodide.
† Precipitated with acid, filtered, washed, dried and dissolved in dilute sodium hydroxide.

3. Smith, R. B., and Giesy, P. M.: J. Am. Pharm. A. 14: 10, 1925.

RESULTS

It will be noted from a survey of the results that the compounds naturally fall into three groups. (A fourth group containing closely related compounds is necessarily included.)

CLASS 1.—The first class contains compounds some of which are known to be relatively highly ionized mercury compounds. They all poisoned the hydrogen electrode quickly, all reacted with hydrosulphuric acid, and all were highly inhibiting toward the yeast-sugar fermentation. The quantitative data for the inhibitory doses are given in columns 1, 2 and 3. From the data given in columns 4 and 5 it would appear that the mercury action in some of these preparations is of the same order of magnitude as the activity of the mercury in the standard mercuric chloride solution. In the case of metaphen, however, the nonmercuric component of the molecule showed activity equivalent to those compounds of class 2; allowing for this, however, would not materially alter the position.

CLASS 2.—The second class contains mercury compounds that would be expected to be less ionized than some compounds in class 1. All of the mercury compounds in this class poisoned the hydrogen electrode, and all showed some change with hydrosulphuric acid, although mercuric sulphide was not actually thrown down.

The sodium salt of 3 nitro-*o*-cresol was mentioned in connection with metaphen. It shows a suprisingly strong inhibitory power and indicates that the powerful inhibitory effect of metaphen is due to at least two factors: the effect of the mercury and the effect of the rest of the molecule.

CLASS 3.—The third class contains compounds that do not have great inhibitory power. Of the mercury compounds examined, only two, flumerin and mercurochrome, failed to poison the hydrogen electrode, and only two, mercurosal and mercurochrome, failed to show a change with hydrogen sulphide. The mercury in these three compounds is then very closely bound. It should be noted that the intermediate compound for flumerin is found in this group. This points to the fact that the flumerin molecule minus the mercury has considerable inhibiting power, and that the mercury is very tightly bound. What has been said concerning the intermediate compound of flumerin might well be repeated for the intermediate of mercurochrome (the disodium salt of di brom fluorescein) and also of the sodium salt of tetrabrom fluorescein. One important phenomenon prevents placing the last two mentioned compounds in class 3: these substances exhibit almost a cyclic action. A certain small amount of either compound amounts to almost an inhibitory dose. Increasing the dose a given amount seems to decrease the effect, but increasing the dose still more increases the effect. In addition, a comparatively large amount of the drug is needed to make a small change in the gas evolved after enough has been added so that not more than 4 mm. of the gas is evolved in an hour. This is unlike the other substances tested in this respect. These phenomena probably bear a close relationship to those reported in the Report of the Connecticut Agricultural Experiment Station [4] and those of Kohman, Hoffman, Godfrey, Ashe and Blake,[5] which have to do with the subject of bromides as yeast nutrients.

4. Report of the Connecticut Agricultural Experiment Station, Bull. 200, p. 113.

5. Kohman, Hoffman, Godfrey, Ashe and Blake: J. Indust. & Engin. Chem. 7:781, 1916.

It would appear that anything that would loosen the mercury from either flumerin or mercurochrome should increase its inhibiting power. Accordingly, mercurochrome dissolved in water, precipitated with diluted acetic acid, washed, well dried in a vacuum desiccator over sulphuric acid, and redissolved in just sufficient sodium hydroxide shows a considerably stronger inhibitory property (no. 4) than untreated mercurochrome. (It is my opinion that the mercury is so firmly bound to the organic nucleus that it is doubtful if it has any immediate influence when a fresh solution is applied *topically*. May not its effect [locally] be due to the dye component?)

CLASS 4.—Although no data are given for mercuric salicylate, the results concerning this compound are important. It is somewhat soluble, but in its maximum concentration there is not sufficient to show an inhibiting effect. This lends weight to the theory that the mercury in this compound is bound very firmly, probably being attached both to the carboxyl group and to the hydroxyl group.

Afridol, sodium salicyl acetate (the intermediate of mercurosal) and *o* (2.4 dihydroxy benzoyl) ammonium benzene sulphonate (the intermediate of meroxyl) do not show much inhibitory power even in their saturated solutions.

Crystal violet, gentian violet and methyl violet were introduced as strongly colored compounds not containing mercury. It should be pointed out that crystal violet, which is a hexamethyl derivative, has the greatest inhibitory power, while methyl violet, mainly a pentamethyl derivative, shows the lowest. Gentian violet, which is considered to be a mixture of the other two, falls between the two in inhibitory power.[6]

CONCLUSIONS

1. A laboratory classification of mercury compounds has been made by measuring their inhibiting effect on the yeast-sugar fermentation. All the values were compared with the inhibiting value of mercuric chloride.

2. The inhibiting effect of the yeast-sugar fermentation in most cases is due to the mercuric ion concentration, although in some cases other components of the solution are concerned.

3. Molecules identical to flumerin, mercurochrome and metaphen, except for their respective mercury carrying groups, show considerable inhibitory power.

4. The inhibiting value of crystal violet, methyl violet and gentian violet has been measured and compared with the inhibiting value of mercuric chloride.

It is recognized that the work of classification of substances, particularly antiseptics, according to their behavior, chemical, bacteriologic and clinical, is far from complete. It is hoped that further work may soon be fitted around that here reported.

I would appreciate the opportunity of reporting on the keeping properties of my solutions, employing the yeast method of determining the relative number of mercuric ions present, which in time will be an index of decomposition.

535 North Dearborn Street.

6. This is suggested as a method of standardizing gentian violet and the other two methylated rosaniline derivatives.

Clinics for Indian Babies.—Minnesota's Child Hygiene Division has during the last two years held a series of infant and preschool clinics for children of the Minnesota Chippewa Indians, and two Chippewa Indian nurses have been employed to do maternal and infant hygiene nursing.—U. S. Children's Bureau.

PRESENT STATUS OF THE TOXEMIAS OF PREGNANCY *

JOHN OSBORN POLAK, M.D.
BROOKLYN

The types of toxemia to be considered in this discussion are hyperemesis, the preeclamptic toxemias and eclampsia.

Until recently, the etiology of the excessive vomiting of pregnancy has been a question of great dispute. At present all clinical evidence tends to substantiate the theory that hyperemesis is the result of a vicious cycle beginning with a carbohydrate deficiency, as suggested by Duncan, Harding and Titus, and that the pathologic changes found in the liver, kidneys and blood are the result of starvation and dehydration. That pernicious vomiting is a serious complication of pregnancy is evidenced by the fact that it has a mortality of more than 20 per cent.

These investigators (Watson, Harding and Titus) group the underlying factors under three headings:

1. The metabolic factor with its carbohydrate deficiency during pregnancy. This is shown in the glycogenic disturbance in the maternal liver, and, according to Harding, expresses itself in the urine by the presence of beta-oxybutyric acid and acetoacetic acid, which is the origin of the fatty degeneration found in the liver in fatal cases—for the liver is always affected in fatal cases of toxemia. It is, however, the dehydration and starvation brought about by the continuous vomiting that intensify the toxic symptoms.

2. The neurotic factor—this I would place first—in the woman with an unduly sensitive sympathetic nervous system, with heightened normal reflexes or hypersensitivity. This condition tends to accentuate the metabolic fault.

3. Intestinal intoxication, which is a recognized factor in all toxemias, however slight the actual toxic absorption; for it is through this emunctory that waste is eliminated.

The very fact that mild cases of nausea and vomiting of greater or less degree occur in more than 50 per cent of pregnant women and are held to be almost inevitable is evidence that there is a temporary disturbance of the physiologic balance in the majority of women who become pregnant, and, furthermore, that there is a relative carbohydrate deficiency due to the unexpected demand for glycogen on the part of the fetus and growing uterus, and an actual deficiency due to the nausea and vomiting and the consequent lessened intake.

With these facts demonstrated, it takes but little imagination to appreciate that by lack of care, marital indiscretions, improper hygiene and dietetics this vomiting may be aggravated to a degree that will take large quantities of fluid out of the tissues, resulting in dehydration.

The amount of fluid lost by vomiting will vary with the particular case. I have frequently measured the quantity of this vomitus and found that it ranges between 500 and 1,500 cc. daily. Such a fluid loss repeated day after day quickly dehydrates the woman and produces the clinical picture of dehydration with the dry skin, dry coated tongue and dry, cracked lips.

While these signs of dehydration are evident in severe cases, in the milder ones there may be a continuous fluid loss which is not great enough to show the outward signs, yet it is sufficient to diminish the eliminative output.

* Read before the Section on Obstetrics, Gynecology and Abdominal Surgery at the Seventy-Seventh Annual Session of the American Medical Association, Dallas, Texas, April, 1926.

Continuous vomiting likewise produces rapid emaciation by starvation; lowers the blood pressure; gradually increases the rapidity of the pulse; diminishes urinary output; increases the concentration of the body fluids, and allows the development of general toxic symptoms, similar to those found in extreme starvation. These cases, furthermore, almost invariably show a low leukocyte count, which is further evidence of poor resistance.

Roger, Davis and Whipple have proved that starved animals are especially susceptible to liver injury, while by increasing the carbohydrate intake the liver resistance is increased.

The failing kidney function argues strongly for the free supply of fluid in this class of patient, for, as stated, the urinary output is always decreased and albuminuria in varying amount is always present. That the injury done to the kidney cannot be great and is entirely secondary is shown by the rapid disappearance of the albumin after recovery, when the uterus is emptied, or when diuresis is produced.

THE SIGNIFICANCE OF BLOOD CHEMISTRY

The percentage of nonprotein nitrogen and the uric content of the blood may be taken as an index of the renal injury. Normally the blood of women in the early stages of pregnancy does not contain more than 3 mg. of uric acid to the hundred cubic centimeters of blood, while the value of the nonprotein nitrogen rarely exceeds 30 mg. In excessive vomiting, the uric acid retention is always increased to some degree.

Accepting these facts as clinical evidence that dehydration and starvation resulting from the disturbance in the carbohydrate-fat ratio are the basic factors in this serious disease, it has been my plan to follow the suggestions of Harding and Titus and meet these conditions in the following manner:

In the mild cases, certain hygienic and dietetic principles must be impressed on the patient. First, there must be insistence on marital abstinence, for pelvic reflexes always increase the gastric irritability. Second, to combat the dehydration and consequent toxicity there must be a copious ingestion of water, usually in the form of some alkaline water. Third, to meet the carbohydrate deficiency we must insist on an increased intake of carbohydrates in the form of cereals, fruit juices with sugar, puddings, custards, chocolate or candy.

These general principles should be supplemented by rest in bed after meals, and the internal administration of small doses of thyroid extract. Should the vomiting persist and the patient lose weight, rest in bed with absolute isolation is to be insisted on; and the fluid loss made up by the hypodermoclysis, enteroclysis and the intravenous injection of glucose solutions, amounting to 1,000 cc. daily of 10 per cent solution, until diuresis is produced.

In 1924 and 1925, Thalhimer extended his treatment of postoperative nondiabetic acidosis to include cases of toxic vomiting of pregnancy. Briefly, the method consisted in the intravenous administration of about 1,000 cc. of warm 10 per cent glucose solution at the rate of from 200 to 300 cc. an hour. In addition, fifteen minutes after the injection has been begun, 10 insulin units is given hypodermically. More insulin is given at intervals of an hour, until 30 units to the thousand cubic centimeters of glucose solution has been given.

Although Thalhimer gave due credit to Titus, Hoffman and Givens, and to Duncan and Harding, who had

administered glucose alone in cases of this sort, his method of combining insulin with glucose seems to give better results than did glucose alone. If this treatment is successful; the pulse will become slower and fuller, the blood pressure will rise, the urinary output will be increased, and the vomiting will diminish or cease altogether.

When glucose alone or in combination with insulin fails to produce this improvement, I have employed transfusions of 300 cc. of human blood by the direct method, to which is added 500 cc. of physiologic sodium chloride solution. The success of these procedures has been so satisfactory that I have not had to empty the uterus for vomiting in a period of nearly five years.

It must, however, be impressed on the attendant that if, under this plan of treatment properly carried out for a period of a week, diuresis is not produced and the vomiting continues, the uterus should be emptied. As soon as vomiting ceases, the patient should be given solid food with a high carbohydrate content. Should no improvement take place after transfusion, the uterus should be emptied under morphine-scopolamine narcosis.

PREECLAMPTIC TOXEMIAS

The situation in preeclamptic toxemias is not the same as in pernicious vomiting, except that they both occur in pregnant women, and that in fatal cases the liver is always seriously involved.

In the study made by Herrick at the Sloan Hospital, where every toxemia of the latter months is studied by the internist as well as by the biochemist and the obstetrician, they have come to the conclusion that the woman who develops a preeclamptic toxemia or an eclampsia is the woman who starts on her pregnancy with defective emunctories or an unbalanced endocrine system. It is the result of a dysfunction and improper correlation of the eliminative system and endocrine control in the individual woman. My own study tends to confirm this theory, which has a definite clinical backing.

I feel certain that eclampsia is not due to any specialized toxin or toxins elaborated by the growing fetus or its appendages combined with the failure on the part of the mother to develop an antitoxin, but rather to the overload suddenly placed on the maternal organism; for the pregnant woman shows a condition of rapid growth and a rapid increase in weight superimposed on an adult organism that has ceased to grow. It is only natural, therefore, that metabolic strains are set up in the mother to meet the demands of the fetus. This results in a disturbance of the metabolic balance, which in turn affects hepatic and kidney function; for it is well known that eclamptic disturbances which characterize the latter half of pregnancy occur at a period of rapid fetal growth which needs an increased quantity of glucose to maintain it. This in a way confirms the low sugar content of the blood in pregnant women, as well as the increase in the uric acid content of the latter weeks.

Repeated studies of the blood chemistry in preeclamptic toxemias show nothing that is significant or characteristic, except that when the blood is found to have a decided nitrogen retention, either in the form of nonprotein nitrogen or in uric acid, it may be assumed that nephritis is the predominating factor in the particular toxemia.

I had expected to find that the basal metabolism rate would be materially changed in the pregnant woman, and be available as a diagnostic sign of some value in the preeclamptic toxemias; but studies of the readings at different periods of pregnancy has proved that the woman who is functionally fully equipped and healthy in the early months has practically no change in her metabolic readings, and that there is slight though definite elevation of the basal rate in the latter half, returning to the normal after a few days of the puerperium.

In the preeclamptic state the readings are slightly higher than normal; this, however, is demonstrated only in the severe conditions. There is little or no difference in the patients with and without a preexisting kidney lesion, so that antepartum differentiation cannot be made by this test. However, in the nephritic type the reading is apt to remain higher for some time after delivery; which in a way coincides with the blood pressure readings; therefore it may be concluded that neither blood chemistry nor metabolic rate throws much light on the etiology or prognosis. Furthermore, the clinical manifestations, those that may be observed by any keen practitioner, are of greater significance.

DIAGNOSIS

The preeclamptic toxemias are usually considered under:

1. The hepatic type, which is commonly of sudden development with a nephrosis, as the kidney lesion without any preexisting history of renal disease.
2. The renal type, in which nephritis is a contributing etiologic factor. The clinical distinction between these two types in antepartum toxemia is difficult to make, though in the former there is a previous history of renal disease, while in the latter there is always some clinical evidence of preexisting kidney lesion. However, after the labor is terminated, the hepatic type is shown by the relatively quick return of the blood pressure and kidney function to normal, while in the renal type it may take months to clear the urine of albumin and casts, and the blood pressure never ranges below 140.

The earliest evidences of toxemia are:

1. A rise in the systolic blood pressure.
2. The appearance of an albuminuria coincident with or appearing soon after the occurrence of hypertension.
3. Diminished urinary output—the quantity of urine eliminated falling below 1,000 cc.
4. An increase in the body weight beyond the normal 25 pounds (11 Kg.).
5. The appearance of edema in the face, hands and feet.
6. Constipation associated with "heartburn" and epigastric distress.
7. Frontal headache.
8. Eye symptoms, ranging from spots before the eyes to amaurosis.

Blood Pressure.—The pregnant woman whose kidneys are healthy at the time of conception carries a hypotension seldom rising above 120. Progressive readings above this point demand watching. Increasing hypertension during the course of pregnancy at any age points toward the onset of toxic symptoms. Rise in pressure usually precedes the appearance of albumin by days or weeks, unless there is a preexisting kidney lesion. Coincident with the occurrence of albumin there may be a diminution in the urinary output with or without increased concentration.

Weight.—The pregnant woman normally increases her weight by about 20 to 25 pounds (9 to 11 Kg.) in the course of pregnancy. The greater part of this increase takes place during the last four months. Rapid increase is always dangerous—less so when associated

with edema, for edema seems to be a salutary and conservative process which takes the toxins out of the blood and deposits them in the tissues. Eclamptic explosions are less liable to occur when there is edema, especially when the edema forms slowly, than when it is of rapid appearance.

Headaches.—Frontal headache is one of the later manifestations of toxemia, sometimes the earliest forerunner of a convulsion. Headaches should always be inquired into. They are more common in the nephritic type. Gastric acidity with pain or burning in the epigastrium is another evidence of toxemia which gives warning of impending danger.

Eye.—Eye symptoms are common in the nephritic type, the fundal and retinal changes having the same appearance as are found in glomerular nephritis. They are usually absent in the fulminating type.

The treatment of the preeclamptic state and of eclampsia is essentially medical. The obstetric problem comes in for consideration only when labor is established by the convulsive siezures. Notwithstanding the fact that convulsions cease in 52 per cent of the cases when the uterus is empty, we are not justified by the results in any extensive series of clinical observations in making delivery the first consideration in view of the poor surgical risk. Naturally, the treatment of the latter month toxemias resolves itself into:

1. Prevention. One of the greatest strides in preventive medicine has been the antepartum care given to the pregnant woman. It has resulted, in many clinics, in the passing of eclampsia.
2. The control of the convulsion.
3. The management of labor in the presence of convulsions when labor has started.

The preeclamptic toxic patient should be in bed. She should have her nitrogenous intake limited to just enough to sustain life—milk and fruit juices with sugar make up the foundation of her diet. Stimulation of her emunctories should be done by producing diuresis. This may be done with water and the intravenous use of glucose solutions, except in the cases of edema, when the exhibition of fluids should be restricted and diuresis stimulated by lumbar cupping, ammonium chloride and calcium chloride. The skin must always be kept active. This effect may be secured by having the woman rest between blankets or with the electric baker. To favor surface relaxation, the nitrites will add to its effciency. When no improvement is shown, pregnancy must be terminated by obstetric procedure. The method should be determined by the existing obstetric condition, always keeping in mind that the toxic patient is a poor surgical risk, bearing anesthesia poorly, liable to shock, and more susceptible to infection than her better equipped sister. Haste and trauma must be avoided.

In the presence of convulsions, the indications are never surgical. With the appearance of the first convulsion, the woman should be given (hypodermically) one-fourth grain (16 mg.) of morphine sulphate; placed in bed in the Trendelenburg posture, and turned on the side to allow the mucus to drool from the mouth. The tongue must be protected by a "gag"; the bladder is emptied by catheterization. If the pressure is 150 or more, 1,000 cc. of blood should be withdrawn. This may be replaced by 500 cc. of a 10 per cent glucose solution. The morphine is repeated in an hour, and nothing else is done.

Unless the convulsions recur and the supervening coma increases to a degree that the patient remains comatose between convulsions, this condition is an indication for the intravenous use of magnesium sulphate in quantities of 100 cc. of a 25 per cent solution, which has had a most kindly effect, diminishing the cerebral edema and controlling the occurrence of subsequent convulsions.

The management of labor in the presence of eclamptic convulsions is based on the three principles of: (1) avoiding trauma; (2) preventing infection, and (3) diminishing the shock—for the eclamptic patient is a very poor surgical risk.

My plan has been to disregard the labor until complete dilatation of the cervix is obtained when, if the head is engaged and at the spines, delivery may be expedited by the use of low forceps under light oxygen-ether narcosis added to the morphine analgesia.

Section has been limited to those cases in which there was a definite obstetric indication and not employed as a routine for rapid delivery. My experience shows that prevention is the keynote of success; the toxic patient needs active treatment with the first appearance of hypertension; convulsions may be prevented by induction of labor when medical means fail to reduce tension and produce diuresis, and the treatment of eclampsia is essentially medical, and surgical delivery has only a limited field.

20 Livingston Street.

ECLAMPSIA AT THE CHICAGO LYING-IN HOSPITAL

IMMEDIATE AND LATE RESULTS *

J. P. GREENHILL, M.D.
CHICAGO

In this report are analyzed the cases of eclampsia treated at the Chicago Lying-In Hospital from July 1, 1917 (when the new hospital was opened), to Jan. 1, 1926. During these eight and one-half years there were 29,587 obstetric patients. Of this number, 20,226 were delivered in the hospital and 9,361 were delivered at home by our dispensary service. Among these 29,587 patients there were eighty-three who had eclampsia, an incidence of 0.28 per cent. Five of these women who were delivered at home were colored and were sent to other institutions. The remaining seventy-eight patients with eclampsia were admitted to the Chicago Lying-In Hospital, and a study of these cases forms the basis of this paper.

OBSERVATIONS

Definition.—I consider as eclampsia all cases, showing the typical signs and symptoms of acute toxemia including convulsions, in which medical causes like epilepsy and other diseases can be ruled out, and also those cases of acute toxemia without convulsions which at necropsy show the changes characteristic of eclampsia.

Analysis.—Among the seventy-eight patients with eclampsia there were six maternal deaths, giving a mortality of 7.7 per cent. One patient was moribund on admission and died ten and one-half hours later without having received any specific treatment. The baby was dead; hence no attempt was made to deliver it. If we deduct this case, which resembled more acute yellow atrophy of the liver, the mortality is 6.5 per cent. Details of the deaths will be given later.

* Read before the Section on Obstetrics, Gynecology and Abdominal Surgery at the Seventy-Seventh Annual Session of the American Medical Association, Dallas, Texas, April, 1926.

Parity and Age.—Of the seventy-eight patients, fifty-seven, or 73.1 per cent, were primiparas, fifteen were secundiparas, two were tertiparas, two were quadriparas, one was a quintipara, and one a sextipara. Twenty-four patients (31 per cent) were over 30 years of age, and four of the maternal deaths occurred among these twenty-four women, 16.7 per cent (table 1).

TABLE 1.—*Age and Relation to Mortality*

Age		Deaths	
	Number	Number	Per Cent
15 to 20 years	8	...	3.8
21 to 25 years	20	2	
26 to 30 years	25	...	
31 to 35 years	15	2	16.7
36 to 40 years	7	1	
41 to 45 years	2	1	
Unknown	1		

Duration of Pregnancy.—One patient was overterm, twenty-three were at term, and fifteen had reached the thirty-eighth week. The duration of pregnancy in the others is shown in table 2. In one half of the cases, the pregnancy had lasted thirty-six weeks or less.

TABLE 2.—*Duration of Pregnancy*

Weeks	42	40	38	36	34	32	30	28	26	24	Unknown*
Number	1	23	15	9	4	6	2	5	5	2	6

* All most likely less than thirty-six weeks.

Blood Pressure.—The blood pressure on admission and discharge is listed in table 3.

TABLE 3.—*Blood Pressure*

	Admission		Discharge	
	Systolic	Diastolic	Systolic	Diastolic
200 mm. or over	18	0	4	0
190 to 200 mm.	10	0	0	0
180 to 190 mm.	13	0	2	0
170 to 180 mm.	16	0	0	0
160 to 170 mm.	9	0	4	0
150 to 160 mm.	4	2	3	0
140 to 150 mm.	2	4	9	0
130 to 140 mm.	1	3	18	1
120 to 130 mm.	1	9	19	5
110 to 120 mm.	0	17	9	1
100 to 110 mm.	0	17	0	8
90 to 100 mm.	1	14	0	14
80 to 90 mm.	0	5	0	20
70 to 80 mm.	1	3	0	17
60 to 70 mm.	0	1	0	1
50 to 60 mm.	0	0	0	1
40 to 50 mm.	0	1	0	0
Not recorded	2	2	10	10

The average stay in the hospital of all the patients was sixteen days.

TABLE 4.—*Urine*

	Admission	Discharge
4+ albumin	31	2
3+ albumin	25	3
2+ albumin	12	7
1+ albumin	7	17
Trace albumin	1	24
No albumin	1	18
Unrecorded	1	7
4+ casts	4	0
3+ casts	5	1
2+ casts	24	0
1+ casts	24	13
No casts	11	54
Unrecorded	10	10

The low systolic pressures of 90 and 70 mm. and the corresponding diastolic pressures of 60 and 40 mm. were those of two patients admitted in coma after having had convulsions at home. Among the four patients who are recorded as having had a systolic pressure of 200 mm. or over at discharge, three died in the hospital.

Urine.—Table 4 indicates the urinary findings of the patients at the time of admission and discharge.

The two patients who are listed as having had 4 + albumin at the time of discharge died in the hospital. The large number of cases listed as unrecorded were in the hospital during the war when there were few assistants. Among these patients were three who died within twenty-four hours. In six cases, pus in the urine was recorded.

Convulsions.—Twenty-three patients (29.5 per cent) had only one convulsion (but three of the deaths occurred among these patients). The number of convulsions of the patients is shown in table 5.

TABLE 5.—*Number of Convulsions*

Number of Convulsions	Number of Patients	Deaths	
		Number	Per Cent
1	23	3	13.0
2	22	..	....
3	10	..	....
4	4	..	....
5	3	..	....
6 to 10	7	1	14.3
11 to 15	3	1	33.3
16 to 20	3	..	....
21 to 25	2	1	50.0
28	1	..	....
Total	78	6	7.7

The convulsions began ante partum in thirty-nine cases (50 per cent), intra partum in sixteen cases (20.5 per cent) and post partum in twenty-three cases (29.5 per cent). The distribution of maternal and fetal deaths in relation to the onset of convulsions is shown in table 6.

TABLE 6.—*Onset of Convulsions*

Onset of Convulsions	Number	Maternal Deaths		Fetal Deaths	
		Number	Per Cent	Number	Per Cent
Ante partum	39	4	10.3	16	41.0
Intra partum	16	0	0.0	3	18.8
Post partum	23	2	8.7	4	17.4

Manner of Delivery.—The manner of delivery of these seventy-eight patients is shown in table 7.

TABLE 7.—*Delivery*

Delivery	Number	Per Cent	Maternal Deaths		Fetal Deaths	
			Number	Per Cent	Number	Per Cent
Spontaneous in hospital	14		..	....	3	
Spontaneous at home	6*	25.0	..	3.4	2	30.0
Spontaneous after induction	9	11.3	1	(11.1)	4	
Low forceps	10		1			
Mid forceps	9	26.2	..	9.5	2	9.5
High forceps	2		1			
Version and extraction	7	8.7	1	14.3	2	28.6
Abdominal cesarean section	15†	18.7	1	6.7	3	17.6
Vaginal cesarean section	4	5.0	0	0.0	4	100.0
Breech extraction	1	1.3	0	0.0	0	0.0
Craniotomy	2	2.5	0	0.0	2	100.0
Undelivered	1	1.3	1	100.0	1	100.0

* Seven babies.
† Seventeen babies.

Table 7 shows that 62.5 per cent of all deliveries were operative. However, while 36.3 per cent of all the labors terminated spontaneously, labor had been induced in 11.3 per cent of them. Hence, only 25 per cent of the patients had both a spontaneous onset and termination of labor. All the abdominal cesarean sections were performed on primiparas, and only one of these patients was in labor. Nine of the operations were of the low, cervical type and five of them were performed under

local (infiltration) anesthesia. The death in the cesarean section series occurred after a classic operation done under ether.

Convulsions ceased after delivery in 78.2 per cent of all the cases in which they began ante or intra partum. Among the fifteen abdominal cesarean section cases, convulsions began before operation in twelve; and in all of these cases, convulsions ceased after operation. In the three remaining cesarean section cases, the convulsions began after delivery. Twelve of the cesarean section patients had more than one convulsion. Among the twenty patients who delivered spontaneously without induction of labor, convulsions began before labor in three, during labor in two, and after labor in fifteen. In all the patients who delivered spontaneously at home, convulsions began post partum. Among the nine patients who delivered spontaneously after induction of labor, convulsions began before labor in four, during labor in one, and after labor in four.

Labor was induced twenty times (25.6 per cent), as follows: colpeurynter, eighteen; gauze, one; bougie, one. The cervix was incised five times, and manual dilation of the cervix was performed three times.

The maternal mortality for the various forms of delivery was as follows: spontaneous, 3.4 per cent; abdominal cesarean section, 6.7 per cent; forceps, 9.5 per cent, and version and extraction, 14.3 per cent. No deaths occurred after the other forms of delivery. The fetal mortality was as follows: forceps, 9.5 per cent; abdominal cesarean section, 17.6 per cent; version and extraction, 28.6 per cent; spontaneous, 30 per cent, and vaginal cesarean section, 100 per cent.

Adjuvant treatment consisted essentially of venesection, which was performed in 41 per cent of the cases, and the use of narcotics. In occasional cases the following were used: magnesium sulphate intramuscularly and intravenously, glucose intravenously and by rectum, sodium bicarbonate intravenously and by rectum, insulin, sodium bromide, phenobarbital, a preparation of veratrum viride, and thyroid preparations.

Blood Loss.—It is a common belief that the blood of eclamptic patients clots easily, and not infrequently interferes with the therapeutic withdrawal of blood. However, a study of our cases in which the blood loss was reported (fifty-six cases) shows that 30.4 per cent of the patients lost more than 500 cc. at the time of delivery. In a number of cases the operative procedure was undoubtedly responsible for the large amount of blood lost.

Blood Chemistry.—Studies of the blood chemistry in sixteen patients yielded no uniform results. Definite increases in the uric acid, nonprotein nitrogen and creatinine contents were found six times and high urea nitrogen values were obtained five times.

Complications.—Among the complications that occurred were abruptio placentae, two; insanity, one, and cerebral hemorrhage, one.

Prenatal Care.—The value of proper prenatal care in the prevention of eclampsia is recognized by all; but, contrary to the opinion of some authorities, not all cases of eclampsia are preventable. A study of our series revealed that forty-six patients (59 per cent) had absolutely no prenatal care, eighteen patients (23 per cent) had very poor observation during pregnancy, but fourteen patients (18 per cent) had good prenatal care. In the last group are included patients who were seen regularly throughout pregnancy and very frequently when the early symptoms of toxemia appeared, and also patients who were sent to the hospital and who in spite of conservative therapy developed eclampsia. Although the care given these patients was good, it was evidently not good enough.

It is interesting to note that in three instances some other member of the family had had eclampsia. In two cases it was a sister and in the third instance it was the patient's mother. The husband of one of the patients who died of eclampsia married the sister of the latter, and the sister also had eclampsia but she survived.

Maternal Deaths.—Brief histories of the six maternal deaths are as follows:

CASE 1.—Mrs. K. B., a primipara, aged 42, was admitted to the hospital, May 21, 1918. Her blood pressure was 185 mm. systolic and 120 mm. diastolic, and the urine contained 1+ albumin. Her physician performed a classic cesarean section, following which she had eight convulsions. Death occurred the next day. The baby was born alive and thrived. This patient had had no prenatal care.

CASE 2.—Mrs. G. O., a primipara, aged 33, was admitted in labor, March 2, 1921, after having had six convulsions at home. On admission, the blood pressure was 165 mm. systolic and 90 mm. diastolic. The urine contained 4+ albumin and 4+ hyaline and granular casts, and the pulse rate was 168 a minute. Venesection was performed soon after entrance, and labor was terminated by a low forceps operation. The child was born alive. The patient had three convulsions during and three convulsions after labor, and died two days later. This patient also had had no prenatal care.

CASE 3.—Mrs. R. T., a secundipara, aged 35, was admitted, July 17, 1924, after having had a convulsion at home. She was thirty weeks pregnant, and complained of headache, dizziness, pain in the epigastrium, and spots before the eyes. The blood pressure was 190 mm. systolic and 90 mm. diastolic. The urine contained 4+ albumin and 4+ casts, and there was pronounced edema. Conservative therapy, including venesection, was employed for four days, but the patient had more convulsions and grew worse. Labor was induced by means of a colpeurynter, and a nonviable fetus was delivered by version and extraction. The patient died sixteen hours later. This patient had had no prenatal care.

CASE 4.—Mrs. C. S., a secundipara, aged 25, was admitted, Jan. 13, 1925, with a blood pressure of 192 mm. systolic and 140 mm. diastolic. The urine contained 4+ albumin and 2+ casts. The patient complained of headache, spots before the eyes, and vomiting, and she gave a history of chronic nephritis. Edema was pronounced. The blood pressure soon rose to 250 mm. systolic and 110 mm. diastolic. Pregnancy had advanced to the thirty-sixth week, and labor was induced by means of gauze. Delivery followed spontaneously nine hours later, and after this the patient had twenty-five convulsions during a period of three days. On the third day there were symptoms of cerebral hemorrhage, and death occurred on the seventh day. This patient had had good prenatal observation.

CASE 5.—Mrs. A. H., a primipara, aged 39, was brought to the hospital, Aug. 1, 1925, in coma after having had a convulsion at home. The blood pressure was 218 mm. systolic and 128 mm. diastolic, and a catheterized specimen of urine contained 4+ albumin and 2+ casts, some pus and blood. The patient was at term and had taken castor oil and quinine to start labor and with success. Delivery was accomplished by a high forceps operation after manual dilation and incision of the cervix. Four hours after delivery the patient died, never having regained consciousness from the time of admission. The baby left the hospital alive. This patient had had very poor prenatal care.

CASE 6.—Mrs. A. R., a primipara, aged 25, admitted, Jan. 18, 1922, was seven months pregnant and had had very little prenatal observation. She had had one convulsion at home, and on admission was comatose and cyanotic. The blood pressure was 90 mm. systolic and 60 mm. diastolic, the pulse was 152 a minute, and the urine contained a small amount of albumin. The baby was dead. The patient was moribund, and died ten and one-half hours after admission without being delivered. Clinically, the case seemed to be one of acute yellow

atrophy of the liver. Necropsy showed acute toxic degeneration of the liver with fatty degeneration, and acute toxic nephritis with fatty degeneration of the kidneys.

Summary of Deaths.—Four of the women were primiparas, and three were in the hospital one day or less. Three women had only one convulsion, one had eight, one had twelve and one had twenty-five. In four of the cases the convulsions began before labor, and in two, after labor. The method of delivery was as follows: spontaneous after induction of labor, version and extraction after induction, high forceps after forcible dilation of the cervix, low forceps and classic cesarean section. One patient whose baby was dead on admission died undelivered. Three of the patients had no prenatal care, two had very poor observation, and one had been closely watched during pregnancy. One case seemed to be acute yellow atrophy of the liver.

Babies.—Since there were five pairs of twins in the series, the seventy-eight mothers had eighty-three babies. The incidence of twins in this group was 6.4 per cent, which is seven times as high as the incidence of twins at the hospital during the period covered by this report (0.9 per cent). Of the eighty-three babies, only fifty-two (62.7 per cent) weighed 2,000 Gm. (4 pounds 7 ounces) or more, as shown in table 8.

TABLE 8.—*Babies*

Weight	Number	Per Cent	Deaths	
			Number	Per Cent
3,000 Gm. (6 lb. 10 oz.) or over	22	26.5	1	4.5
2,500 Gm. (5 lb. 8 oz.) to 3,000	19	23.0	0	0.0
2,000 Gm. (4 lb. 7 oz.) to 2,500	11	13.2	0	0.0
1,600 Gm. (3 lb. 8 oz.) to 2,000	13	15.6	7	53.8
Less than 1,600 Gm. (3 lb. 8 oz.)	15	18.1	12	80.0
Unknown	3	3.6	3	100.0
Total	83	100.0	23	27.7

The entire number of fetal deaths, including macerated fetuses, stillborn fetuses and neonatal deaths, was twenty-three, giving a mortality of 27.7 per cent. Hence, 72.3 per cent of all the babies left the hospital alive. Seven babies were dead in utero when the mothers were admitted, and one baby died at home before the mother was admitted. If we deduct these eight babies, the fetal mortality of the remaining seventy-five babies was 20 per cent. Of the fifteen babies that constitute this 20 per cent, only one weighed over 2,000 Gm. (4 pounds 7 ounces). Of the three fetal deaths listed as of unknown weight, two were macerated and one died at home. Five babies had convulsions. In a few instances, necropsy showed hemorrhagic necroses in various organs similar to those found in eclamptic women.

Seventeen babies were born by means of fifteen cesarean sections, and among the babies were three deaths (17.6 per cent). One of these babies was dead on admission, being associated with a complete detachment of the placenta and the other two babies were not viable. If we omit the first baby, the fetal mortality was 12.5 per cent.

Follow-up Study.—Of the seventy-two patients who left the hospital alive, I was able to trace sixty, or 83.3 per cent (table 9). Two of the women (3.3 per cent) died of chronic nephritis, two and three and one-half years, respectively, after leaving the hospital. The former became pregnant a year after having had eclampsia, but, because of the chronic nephritis, a hysterotomy and sterilization operation were performed. The latter patient had an ectopic pregnancy one and one-half years after having had eclampsia. Of the remaining fifty-eight women, three now have chronic nephritis. Two of these three women and the two women who died after leaving the hospital had chronic nephritis before they had eclampsia. Hence four of the five women who had chronic nephritis after they had eclampsia were known to have had the chronic nephritis before the beginning of the pregnancy that led to the eclampsia.

TABLE 9.—*Follow-Up*

	Number	Per Cent
Died (of chronic nephritis)	2	3.3
Chronic nephritis now	3	5.0
Well now	55	91.7
Pregnancies	18	30.0

	No.	%
Normal termination	10	55.6
Now pregnant	1	5.6
Eclampsia	1	5.6
Preeclampsia	3	16.6
Chronic nephritis	2	11.1
Ectopic pregnancy (with chr. neph.)	1	5.6

The remaining fifty-five women (91.7 per cent) have no untoward sequelae from the eclampsia. All have normal blood pressures and normal urinary findings at present.

Among the sixty patients followed, seventeen women had eighteen pregnancies subsequent to the attack of eclampsia. Nine of these women had ten entirely normal pregnancies, labors and puerperia. One patient is now six months pregnant and has no signs of toxemia. One patient had eclampsia a second time, and three had preeclamptic symptoms for which the pregnancies were terminated. Hence, four out of the fifty-five women (7.3 per cent) who completely recovered after eclampsia had a recurrence of toxemic symptoms. These four instances of recurrence were in a total of eighteen pregnancies (22.2 per cent). However, since in three of these eighteen pregnancies the patients had nephritis of long standing, we should calculate the recurrence of toxemia on the basis of the pregnancies of the patients who completely recovered; namely, fifteen. This yields an incidence of 26.7 per cent, which is indeed very high.

The patient who had a second attack of eclampsia, and the three women who had preeclamptic symptoms, recovered completely after their pregnancies were ended. Two patients had their pregnancies terminated and were sterilized early because of chronic nephritis. One of these two women subsequently died. One patient had an ectopic pregnancy, and she also died later of chronic nephritis. (These are the two deaths mentioned above.) Two patients had attacks of pyelitis after eclampsia, which makes one think of the connection between focal infection and eclampsia.

I did not follow up the babies because Dr. Abt [1] last year studied our cases of toxemia with a view of determining the relationship of neonatal morbidity and mortality to the toxemia. He found that eclampsia did not seem to effect permanent injury in the infants who survived.

COMMENT

The foregoing analysis indicates that treatment in most of the cases was directed toward emptying the uterus. The method chosen depended on the condition of the patient, the size of the baby and the state of the cervix. The results obtained (a maternal mortality of 7.7 per cent or 6.5 per cent) are better than the results published by most authors. In spite of the fact that

1. Abt, I. A.: Relationship of Neonatal Morbidity and Mortality to the Toxemias of Pregnancy, Arch. Pediat. 42: 415 (July) 1925.

many babies were nonviable, the total fetal mortality was but 27.7 per cent, and only 20 per cent if we deduct the fetuses that were dead on admission to the hospital. Since a large proportion of the 72.3 per cent who left the hospital alive were premature and many were toxemic, we have here an indication of the value of proper hospital care for premature babies.

A word of caution may not be amiss concerning phlebotomy. As indicated in the analysis, almost one-third of the patients lost more than 500 cc. of blood at the time of delivery, showing that patients with eclampsia can bleed excessively. Hence, one should not draw off much blood therapeutically *before* labor, especially if the patient is small and undernourished.

The matter of prenatal care is worthy of discussion. The present analysis shows that 59 per cent of the patients had absolutely no observation before the attack of eclampsia, but that 18 per cent had good prenatal care. While the latter figure is unusually high, it nevertheless indicates that a certain number of patients will develop eclampsia even under the best of care, unless the pregnancy is terminated when symptoms of toxemia increase. These patients can often be recognized during pregnancy because they frequently are of the "pituitary type", with a tendancy to hard obesity, masculine pelvis, masculine distribution of hair, and thick skin. Patients with toxemia ill enough to require treatment during pregnancy in a hospital should not be permitted to leave the hospital until they are delivered.

The follow-up study indicates that the large majority (91.7 per cent) of women who did not succumb to eclampsia recovered completely, and of the five women (8.3 per cent) who had chronic nephritis after the eclampsia four were known to have had chronic nephritis before the eclampsia. The fifth may also have had nephritis before eclampsia, but I could not determine this. It appears, therefore, that chronic nephritis is rarely found after eclampsia unless the patient previously had nephritis.

An appreciable number of the normal patients who subsequently became pregnant had a recurrence of the symptoms of toxemia. In the present series the incidence was 26.7 per cent. In other words, the patients who recovered completely after having had eclampsia remained normal as long as they did not become pregnant. When these patients subsequently became pregnant, more than one fourth developed signs and symptoms of toxemia. This probably means that, in a certain proportion of cases, eclampsia does cause a permanent derangement of the kidneys and perhaps other organs; but this derangement is not detectable by our usual methods of examination. Perhaps some new chemical studies of the blood and urine will reveal those patients who are likely to develop toxemia during pregnancy.

SUMMARY

Among the seventy-eight cases of eclampsia analyzed there were six maternal deaths (7.7 per cent). If we deduct one moribund, untreated patient, the mortality is 6.5 per cent. In 50 per cent, the convulsions began before labor; in 20.5 per cent, during labor, and in 29.5 per cent, after delivery. The maternal mortality for these groups was 10.3, 0 and 8.7 per cent, respectively, and the fetal mortality was 41, 18.8 and 17.4 per cent, respectively.

The incidence of operative deliveries was 62.5 per cent. However, while 36.3 per cent of all the labors terminated spontaneously, labor had been induced in 11.3 per cent of them. Hence, only 25 per cent of the patients had both a spontaneous onset and spontaneous termination of labor.

Convulsions ceased after delivery in 78.2 per cent of all the cases in which they began ante or intra partum. Among the fifteen abdominal cesarean sections, convulsions began before operation in twelve, and in all of these cases the convulsions ceased after operation.

The maternal mortality for the various forms of delivery was: spontaneous, 3.4 per cent; cesarean section, 6.7 per cent; forceps, 9.5 per cent, and version and extraction, 14.3 per cent. The fetal mortality for these groups was: forceps, 9.5 per cent; abdominal cesarean section, 17.6 per cent; version and extraction, 28.6 per cent; spontaneous, 30 per cent, and vaginal cesarean section, 100 per cent.

Of the seventy-eight patients, 59 per cent had no prenatal care, 23 per cent had very poor observation during pregnancy, and 18 per cent had good prenatal care.

There were five pairs of twins (6.4 per cent). Among the eighty-three babies there were twenty-three deaths (27.7 per cent). However, the fetal mortality of the seventy-five babies that were alive when their mothers entered the hospital was only 20 per cent. Of the fifteen dead babies that constitute this 20 per cent, only one weighed more than 2,000 Gm. (4 pounds 7 ounces). Only 62.7 per cent of all the babies weighed 2,000 Gm. or more.

Of the seventy-two patients who left the hospital alive, sixty (83.3 per cent) were traced. Of this number, two died of chronic nephritis, three now have chronic nephritis, and fifty-five (91.7 per cent) are well. Among eighteen subsequent pregnancies, ten ended normally and one is in progress now. One patient had another attack of eclampsia, and three had preeclamptic symptoms for which the pregnancies were ended. Hence, among the patients who completely recovered after the attack of eclampsia, 26.7 per cent of those who subsequently became pregnant developed signs and symptoms of toxemia. These patients again recovered completely.

CONCLUSIONS

As a result of this study we feel that the treatment of antepartum and intrapartum eclampsia should not be entirely conservative nor entirely radical. However, in experienced hands we favor emptying the uterus in most cases, and the method selected depends on the condition of the patient, the size of the baby and the state of the cervix. Where the patient is a primipara with a viable baby and the cervix is undilated, we prefer to terminate pregnancy by a low or cervical cesarean section *under local anesthesia* as soon after the first convulsion as possible. We believe that all patients with eclampsia should be sent to a hospital. When a patient must remain at home the treatment should be conservative. It should also be conservative in a hospital when the attending physician is not skilled in operative obstetrics.

426 East Fifty-First Street.

Renal Glycosuria and Life Insurance.—Renal glycosuria requires no treatment; it never does any harm beyond the loss of carbohydrate that results from its presence. General metabolism is usually unaffected, and as far as any harm to health is concerned, the sufferer from this condition may be looked on as a normal individual. Frequently the question of life insurance arises in connection with this glycosuria. The general view of the matter now taken by the more progressive companies is that, provided the patient is otherwise healthy, renal glycosuria need not be considered as a disadvantage.—MacLean, Hugh: *Lancet* **1**:1242 (June 26) 1926.

TOXEMIA OF PREGNANCY

EIGHT HUNDRED AND SEVENTY-NINE CASES WITH CONVULSIONS AT THE NEW YORK LYING-IN HOSPITAL *

ASA B. DAVIS, M.D.
AND
JAMES A. HARRAR, M.D.
NEW YORK

It has been our privilege during the last thirty years at the New York Lying-In Hospital to study and in part to treat 879 cases of toxemia of pregnancy of the convulsive type, commonly known as eclampsia. These cases have consecutively occurred in a series of 152,248 confinements in the combined indoor and outdoor services. Included, there are 414 cases with convulsions beginning before labor; seventy-four cases in which the time of onset was not definitely noted but the majority of which evidently began ante partum; 118 cases in which convulsions began during labor; 234 cases in which convulsions began during the puerperium; twenty-three cases in which the patients died undelivered shortly after being admitted in a moribund condition, and sixteen in which the patients were discharged undelivered, pregnancy continuing.

During this time our conception of the control and treatment of the disease has varied greatly. The pendulum of procedure has swung back and forth, and while we may be still far from a scientific treatment based on an accurate etiology, we at least have come to believe that the eclamptic patient is as much a medical as an obstetric problem, and with the accompanying corollary, that obstetric intervention should be for obstetric indications only, and not for the convulsions.

We feel that we must remain content for the present with this principle of treatment, even though we also find statistically that the sooner the woman comes to delivery after the first convulsion the better are her chances for recovery. In a previous study of this point it was noted that out of seventy cases observed, thirty deaths occurred where delivery averaged 11.2 hours after the first convulsion; while forty recoveries took place with an average delivery 7.3 hours after the first convulsion. In 106 cases, there was no further convulsion in sixty-nine after delivery. Could we but promptly relieve the woman of her pregnancy without the slightest addition of shock or trauma, it would be ideal; but no matter how dexterous we may be, this is impossible.

Along such lines, vaginal and abdominal cesarean section have been proposed and highly advocated by certain authorities. Our results in delivery of eclamptic patients by abdominal cesarean section have not been encouraging. In fifty-four patients so delivered, twelve mothers died, a mortality of 22 per cent; while in a series of forty-two delivered by vaginal cesarean section, eight died, a mortality of 19 per cent, practically the same as by all other methods. Where we seem to have gained in controlling the eclampsia by prompt cesarean delivery we have equally lost by introducing the additional operative mortality.

Some fifteen or twenty years ago, according to the reports of a certain group of men in and about Cincinnati, all that it was necessary to do for eclampsia was to give full doses of veratrum viride. This treatment was entirely disappointing in our experiences with it. We have seen at times a large number of eclamptic patients subject to certain routine treatment followed by very low mortality. So satisfactory would this appear that some of us would be tempted to believe that we had reached a point at which a method of treatment that was successful had been discovered; and then, with the same care and treatment, the death rate would begin to increase. Years ago we gave morphine, but not in the large doses that are given today. We feared the morphine would tend to check kidney activity, and were not successful with the small doses. There is no question but that good effects are obtained in many cases when large doses of morphine have been administered; but, that morphine is to be the treatment of the future for all cases of eclampsia, we hesitate to assert. We cannot expect to get the desired result when a patient is brought into the hospital with eclampsia, merely by giving her routine doses of morphine. And so, having harked back and forth, and even though in the last six years better results have been obtained, we sometimes wonder whether we may not be swinging along the arc of a larger circle with greater radius.

There is no doubt, however, that the incidence of eclampsia at the present time is very much reduced, and we hope and believe that this state of affairs is to be maintained. Ten or twelve years ago, when one of us was in charge of half the work at the Lying-In Hospital, a house surgeon had every appearance of being about to break down from overwork. At the time, part of his work was the care of seven active cases of eclampsia. This was a larger number than usual, but at almost any time we could show examples of this condition. The same thing was true in the other services of the hospital. In contrast to this state of affairs, during 1922, in more than 5,400 deliveries, there were but eight cases of eclampsia with one maternal death during the entire year. A similar result is to be found in the records for 1923. Where cases formerly were in considerable numbers in the hospital at almost any time, now they are so rare that our intern staff and pupils can gain no adequate idea of the gravity of the disease. This seems to be equally true in many other well conducted maternities. Such a state of affairs has been brought about, we believe, by systematic antepartum observation and instruction of the pregnant applicants, coupled with the willing and more intelligent cooperation on the part of the patients themselves in carrying out the idea that the time to treat eclampsia efficiently is long before it occurs. It is our well founded belief, based on the decreasing incidence of eclampsia, that the emergency case should disappear, and that then the many complications and deaths will likewise disappear, or at least be greatly diminished. In our combined service, which averages between 5,000 and 5,500 confinements annually, from a high point in 1914 of fifty-seven cases of eclampsia, the number has steadily dwindled to a low point in 1922 of eight cases. In 1925 we had twelve cases.

We cannot present all the details of such a large series of cases. Too fine comparisons in such lists often prove to be fallacious. In the first place there are undoubtedly two distinct types of toxemia of pregnancy, not always easy to differentiate in the emergency patient just admitted in convulsions. One, the so-called true toxemia of pregnancy which, although it may be severe, is transitory in character. When visual disturbances appear in this class, they are usually due to edema and promptly subside after delivery, leaving no permanent

* Read before the Section on Obstetrics, Gynecology and Abdominal Surgery at the Seventy-Seventh Annual Session of the American Medical Association, Dallas, Texas, April, 1926.

injury. The other is found in patients already handicapped by an underlying cardiovascular nephritic condition prior to conception. Pregnancy, adding its extra demands on such kidneys, not infrequently develops a toxemia which is rather akin to uremia. When symptoms of toxemia appear in this class, there is great danger of retinal hemorrhage and separation resulting in partial or complete permanent blindness. Similar treatment must necessarily give different results in either group. Again, when a patient is admitted already with the massive brain and liver hemorrhages so frequently found at necropsy in these patients, what treatment would be of any avail?

FACTS THAT SEEM FAIRLY WELL ESTABLISHED BY THE FIGURES

Apparently we must be more apprehensive of the convulsive type of toxemia developing in our pregnant patients during the spring months than at any other time. In 1905, one of us (J. A. H.) was able to point this out in a graph, charting 150 cases. A similar group of 853 listed cases of eclampsia occurring over a period of thirty years shows a similar curve of incidence increasing from January to a high point in April, and reaching its lowest in July; again rising during the autumn to the January point. So we might be especially watchful for albumin and rising blood pressure readings during March, April and May.

The gross mortality in the series, including twenty-three who died undelivered shortly after admission, was 23 per cent, 203 deaths in 879 cases. In 1905, in the 150 cases of eclampsia then on the records, the gross maternal mortality was 36 per cent. This was at a time when delivery by accouchement forcé was at the height of its popularity. As we came to realize the disastrous results of such formidable intervention and abandoned it, our mortality rate in eclampsia fell between the years 1906 and 1918 to 20 per cent. In 1918 the use of large doses of morphine, combined with a patient and conservative handling of the delivery, came to be generally employed throughout the hospital and with marked effect on the maternal mortality, so that of 147 patients with antepartum and intrapartum eclampsia consecutively delivered since then to date, and including seven who died undelivered, only twenty-three have died, a gross mortality of 15 per cent.

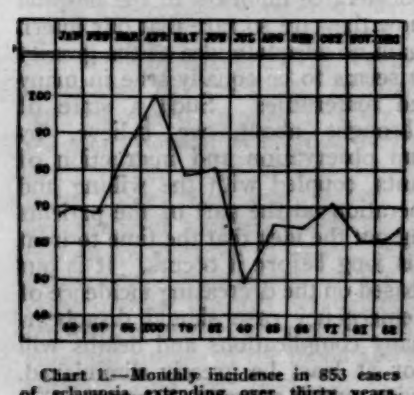

Chart 1.—Monthly incidence in 853 cases of eclampsia extending over thirty years.

This reduction has been most impressive, yet we must recognize that the routine use of large doses of morphine is empiric rather than scientific, and we do not wish to make extravagant claims for it. Curiously enough, it seems to be of no especial value in the reduction of the mortality rate when used in postpartum eclampsia. Prior to 1918, in 192 cases of postpartum eclampsia, thirty-nine mothers died, a mortality of 20 per cent. Since 1918, there have been forty-two cases of postpartum eclampsia and nine mothers have died, a mortality of 21 per cent—no improvement.

The results for the baby with the large doses of morphine and the more conservative method of delivery would indicate that the dangerous effect of large doses of morphine on the fetus has been overestimated. We might almost be tempted to believe that the baby has a better chance with it, as the convulsions of the mother are frequently controlled, and there is less danger of asphyxia for the child. Prior to 1919, in 472 consecutive deliveries of eclampsia patients, there were 175 stillbirths, a stillbirth mortality of 37 per cent, and eighty-six babies who died after delivery, or 18 per cent. These added give a gross fetal mortality of 55 per cent. Since 1919, when the large doses of morphine

Chart 2.—Annual incidence of eclampsia at the Lying-In Hospital, showing great decrease in recent years.

were more freely used and our conception of obstetric intervention became more limited to obstetric indications, there has been a great reduction in the stillbirth rate and in the babies dying after delivery. In the 134 consecutive deliveries since 1918, twenty-nine babies were stillborn, or 21 per cent; and eighteen died after delivery, or 13 per cent—a gross fetal mortality of 34 per cent as compared with the previous 55 per cent.

TREATMENT OF ECLAMPSIA

Naturally, our first endeavor is to avoid the occurrence of the condition. Aside from careful prenatal instruction in right living, this is best done by detecting toxemia in its incipience; watching for the subjective symptoms of increasing nervous irritability and insomnia, or drowsiness, headache and visual disturbances, and for the objective signs in the eyegrounds and especially in the urine and blood pressure readings. More frequent observations on these last two points are imperative. Several patients delivered in the past year have impressed the fact on us that observations during the latter part of pregnancy at intervals of two weeks are not sufficient, and that all pregnant women should have urine and blood pressure examinations made at least once a week during the last two months. A trace of albumin in the urine is so common a finding in many pregnant women during the latter months that blood pressure elevations are much more indicative of danger ahead. Each individual carries within reasonable limits a range of blood pressure peculiar to herself. Below 140 systolic, with other symptoms absent, there need be little cause for concern; but a pressure that is gradually or abruptly rising should put us on our guard. Accompanied by evidences of urinary changes and other symptoms, the danger ahead becomes imminent and such women should be hospitalized at once. They are placed in bed, kept quiet, and when necessary given mild sedatives or even morphine. They

are put on a carbohydrate and nonprotein diet consisting of cereals, vegetables and cooked fruits. Elimination is furthered by the use of high colonic irrigations, warm baths and free fluid intake. Glucose is given intravenously. Daily records are made of blood pressure, urinary analysis, and the condition of the eyegrounds. Investigation of the blood chemistry made by Dr. Losee in the hospital laboratory several years ago proved of no value for any assistance in prognosis or treatment.

In some patients treated in this manner, symptoms promptly disappear and they may be allowed to return to their homes, continuing in some measure the treatment as to diet and rest, and being prevailed on to return at weekly intervals. Often they continue to full term delivery without recurrence of symptoms of toxemia. Others at first show moderate response to treatment, and then remain stationary as to blood pressure and kidney symptoms. This continues until they go into premature labor and deliver themselves of a macerated fetus or one that is living but not viable. Again we may see sudden improvement of the condition, followed in a week or so by the expulsion of a macerated fetus whose death was apparently coincident with the cessation of symptoms. Such mothers almost invariably recover, but they must be kept under the closest scrutiny, and unless there is definite response to treatment, pregnancy should be artificially terminated without hesitation or delay. The convulsive type is more apt to occur after the sixth month. As already noted, we have tried the various methods of treating eclampsia as they have appeared. We are gratified to note that comparatively few patients develop eclampsia who have received adequate antepartum care. The majority of those admitted are emergency patients who have lacked such care. As to the treatment of the convulsive type when it occurs, we have not yet arrived at an entirely routine standard method, but must continue to be guided by the circumstances in each case. Practically every eclamptic patient admitted is given a half grain of morphine hypodermically, at once. This can be done quickly, and soon holds or controls the convulsions. The alimentary tract is emptied by means of colonic irrigations and lavage, followed by 2 ounces of magnesium sulphate through the stomach tube in situ. The free use of morphine is then continued in quarter grain doses hypodermically, its physiologic effects being kept well in evidence. We rarely induce labor for the convulsions, and many patients fall in labor spontaneously. Labor should be encouraged and may be shortened safely by easy low forceps.

TABLE 1.—*Cases Occurring in One Hundred and Fifty-Two Thousand, Two Hundred and Forty-Eight Confinements*

Ante partum	414
Intra partum	118
Post partum	234
Not noted, probably ante partum	74
Patients dying undelivered	23
Patients discharged undelivered	16
Total	879

As to the employment of phlebotomy in the treatment of eclampsia, it is no new departure. For many years we have bled in certain cases, in some of which the improvement was almost startling. In plethoric women, bleeding at delivery is encouraged. Often eclamptic patients bleed very little. In the type in which convulsions continue after labor, phlebotomy is of the greatest value. It is a mistake to bleed every patient, especially before delivery. We occasionally see a patient have a sudden fall of blood pressure and the appearance of cardiac failure after delivery. This is likely to be accompanied by pulmonary edema, a common cause of death in eclampsia. Such patients are saved, if at all, by the prompt use of cardiac stimulants, dry cupping the chest, and some effort at drainage of the trachea. Turning on the side may aid. Two patients were apparently carried through their acute pulmonary edema by two courageous house surgeons aspirating the trachea frequently with a tracheal catheter until the cardiac stimulants had a chance to get in their effect. Moore of Philadelphia has devised an aspiration apparatus operating through a bronchoscope that should be of signal service in such emergencies. Of sixty-four patients on whom phlebotomy was done, sixteen died, a 24 per cent mortality. It must be evident that a large, robust, full blooded woman can under such circumstances well afford a considerable loss of blood. This does not hold if the patient is small, ill nourished and anemic.

TABLE 2.—*Maternal Mortalities in Antepartum and Intrapartum Cases, Including Deaths of Undelivered Patients Grouped According to Chronological Epochs of Treatment*

	Cases	Maternal Mortalities	
		No.	Per Cent
Previous to 1906; accouchement forcé popular	125	47	37
1906 to 1918; accouchement forcé abandoned, but 90% operative delivery	370	*75	20
1919 to 1925; conservative method with morphine	149	†23	15

* Including 15 dying undelivered.
† Including 7 dying undelivered.

While rather recently the use of magnesium sulphate intravenously has been proposed and tried with apparently good results, our experience has been too limited thus far to allow us to pass judgment on its value. In five cases during the past year, 4 cc. of a 50 per cent solution of magnesium sulphate injected two or three times intravenously, given very slowly, has been of signal success in controlling the convulsions. All five patients recovered. We use the same ampules that we employ in the magnesium sulphate, morphine and rectal ether analgesia for the relief of pain in labor.

TABLE 3.—*Improvement in Infant Mortality in Six Hundred and Six Cases of Antepartum and Intrapartum Eclampsia*

	Radical Methods Before 1919		Conservative Methods Since 1919	
	Number	Per Cent	Number	Per Cent
Babies born	472	..	134	....
Stillborn	175	37	29	21.5
Babies died	86	18	18	13.5
Total infant mortality	261	55	47	35

Convulsions are admittedly dangerous. We have seen death follow quickly after the first convulsion, usually accompanied by hemiplegia, denoting massive brain hemorrhage. Other patients have had many convulsions, some lasting three and even five minutes, and yet have recovered.

One attack of eclampsia does not necessarily predispose to an attack in a subsequent pregnancy. In

several women subjected to cesarean section for eclampsia we have had the opportunity of handling a later pregnancy and delivery, and several others who have subsequently borne children without giving any further symptoms of toxemia. Others have moderate symptoms of toxemia, respond to treatment, and go on and bear full-time children.

We no longer advocate prompt delivery of eclamptic patients by cesarean section. We still believe that in patients who have been under close supervision and who do not appear to improve under the treatment described, life may be conserved by an expeditious abdominal cesarean section.

SUMMARY

1. Eclampsia occurred in 879 cases under our observation during a long series of years, in a large number of confinements.

2. The unmistakable seasonal influence on the incidence of eclampsia as shown in studies of different groups years apart is borne out in the study of our entire number.

3. The remarkable reduction in the incidence of toxemia and eclampsia, with greatly lowered maternal and infant mortality, is due, we believe, to adequate prenatal care, with more conservative treatment and the free use of morphine during the attack.

44 Park Avenue—100 East Sixty-Sixth Street.

MAGNESIUM SULPHATE INTRAVENOUSLY

IN THE CARE AND TREATMENT OF PREECLAMPSIA AND ECLAMPSIA *

LYLE G. McNEILE, M.D.
AND
JOHN VRUWINK, M.D.
LOS ANGELES

Wood,[1] in 1884, in an article to substantiate the inhibitory action of magnesium sulphate, wrote that its intravenous injection was not new. Then, in 1905, the important work of Meltzer [2] was published. This has been the basis for the subsequent use of the salt in controlling the convulsions of tetanus, and in establishing its anesthetic properties. Moreover, he definitely advised against intravenous administration because of the danger of provoking respiratory failure. In 1916, Meltzer [3] gave a comprehensive outline of the action and use of magnesium sulphate in tetanus, and, in a measure, retracted his previous definite statement regarding the risk of intravenous injection, yet emphasized a probable danger.

Weed and McKibbon,[4] in 1919, reported an important series of experiments, demonstrating that cerebrospinal fluid pressure and brain bulk may be varied by hypertonic and hypotonic solutions. They also stressed the fact that certain hypertonic solutions—sodium chloride—caused respiratory failure and that some cats were much more sensitive than others.

Foley and Putnam,[5] in view of this danger, gave hypertonic and hypotonic solutions by mouth and recorded similar results, except that the action was somewhat delayed. May not this, rather than elimination, account in part for the universal use of magnesium sulphate by mouth in the prophylactic and active care of the toxemias of pregnancy?

Meltzer and Auer,[6] Blake [7] and Gwathmey have emphasized the anesthetic properties of magnesium sulphate, and their opinion has been rather definitely substantiated by clinical experience, not, however, without danger, when given in large doses; for Curtis [8] reported an apparent death when 310 cc. of a 4 per cent solution was given subcutaneously preparatory to operation.

A series of experiments and its use in a clinical way emphasize certain properties of magnesium sulphate which give the following reactions: 1. It can control convulsions, at least of the tetanic type. 2. In a hypertonic solution, it will decrease cerebrospinal fluid pressure and reduce brain bulk. 3. It has anesthetic properties.

The convulsions of tetanus may be controlled by magnesium sulphate given intraspinally, subcutaneously and intravenously. Without question, Meltzer has proved that this salt reduces nervous irritability. It is definitely true that the pathologic changes in tetanus and in eclampsia are radically different, yet the convulsions are due to increased irritability of the higher centers, due to different origin, but irritability nevertheless. If magnesium sulphate will control eclamptic convulsions, by inhibiting central nervous excitability, it will have a place in the management of eclampsia.

A 10 per cent solution of magnesium sulphate is a hypertonic solution, and we may definitely expect to reduce both cerebrospinal fluid pressure and brain bulk. In eclampsia, this is unquestionably a part of the known pathologic condition; its use is a rational means of limiting this.

Anesthetics, in various forms, have been given for the control of convulsions, but most anesthetic agents have a deleterious effect on the parenchymatous organs, and retard elimination. We have an agent in magnesium sulphate which has proved anesthetic qualities and which in some way also decreases the congestion and swelling of parenchymatous tissue—especially the kidney—and thus aids in excretion. There is probably no effect on alimentary elimination; nor is there the inhibiting effect on peristalsis that we find with morphine or its derivatives.

We are frankly aware of the fact that from time to time enthusiastic measures have been advocated for the care and treatment of eclampsia. We also know that the etiology of eclampsia is yet unknown and that rational therapy depends on definite knowledge of causation. No empiric treatment can be dogmatic, and we offer this study of magnesium sulphate intravenously only as a valuable adjunct for the care of the acute toxemias of pregnancy. It may not always accomplish satisfactory results alone, but we are convinced that, in conjunction with other recognized measures, it will give better and more definite relief. Our own first efforts included the established procedures for the care of eclampsia; but, as our experience with the salt increased, our timidity ceased, until now we very frankly believe

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* Read before the Section on Obstetrics, Gynecology and Abdominal Surgery at the Seventy-Seventh Annual Session of the American Medical Association, Dallas, Texas, April, 1926.

1. Wood: M. Record, 1884.
2. Meltzer, S. J.: M. Record **68**: 965, 1905.
3. Meltzer, S. J.: Inhibitory Properties of Magnesium Sulphate and Their Therapeutic Application in Tetanus, J. A. M. A. **66**: 931 (March 25) 1916.
4. Weed and McKibbon: Am. J. Physiol. **48**: 512, 531 (May) 1919.
5. Foley, F. E. B., and Putnam, T. J.: Am. J. Physiol. **53**: 464 (Oct.) 1920.
6. Meltzer and Auer: J. Exper. Med. **23**: 563, 1916.
7. Blake: Surg. Gynec. Obst. **2**: 541, 1906.
8. Curtis, A. H.: Magnesium Sulphate Solution as an Aid in Anesthesia, J. A. M. A. **77**: 1492 (Nov. 5) 1921.

that we can usually depend on intravenous medication to prevent and control convulsions.

In the preeclamptic type of toxemia, the intravenous injection of 20 cc. of a 10 per cent solution of magnesium sulphate nearly always gives immediate relief from subjective symptoms. The patient frequently comments on the immediate disappearance of the sense of "constriction" or "impending disaster." We believe this immediate comfort primarily due to the anesthetic properties of magnesium sulphate. Administration of the drug is usually followed by some reduction in blood pressure, reduction of edema (probably including cerebral edema), and an increased output of urine.

During the convulsive stage of a toxemia of pregnancy, the intravenous injection of 20 cc. of a 10 per cent solution of magnesium sulphate will generally stop, or at least limit, the number of convulsions. It may be, and usually is necessary to repeat the injection, both for the control of convulsions and for the relief of other toxic symptoms. The use of this drug apparently not only controls the convulsions but exercises a favorable influence on other symptoms due to acute lesions in the parenchymatous organs.

The risk of producing respiratory failure by this method was first emphasized by the man who has done most in establishing the value of this salt. The very definite and happy results first obtained at the Los Angeles General Hospital led us to find ampules of prepared solution. One of the large pharmaceutical houses refused to furnish this solution because its research department emphasized the danger of intravenous injection. We then obtained ampules from a firm in San Francisco and later in Los Angeles. This solution is a sterile, chemically pure, triple crystallized anhydrous salt dissolved in 20 cc. of triple distilled water of 10 per cent magnesium sulphate, in ampules of the hardest glass obtainable. There is no addition of calcium chloride. We do not hesitate to repeat 20 cc. of this solution every hour when necessary, if the convulsions are not controlled or are imminent. Usually one or two injections are sufficient, though as many as eight in twenty-four hours have been given.

Fischer[9] states that the salt may be safely used in a 2 or 2.5 per cent solution up to 8 Gm. of the salt, and advises 200 cc. of such solution for a first dose.

Bowman[10] gave 10 cc. of 10 per cent magnesium sulphate intravenously every four hours for six or eight doses in a series of cases of brain injury, with only satisfactory results and no evidence of poisoning.

The question of respiratory failure and individual sensitization is far more difficult. It may be that there is an increased tolerance in toxic women, for in a series of 520 injections, practically all consisting of 20 cc. of a 10 per cent solution, this danger was never encountered. We advise that the salt be injected very slowly, and if respiratory symptoms should develop, it is easy to inject sufficient calcium chloride through the same needle immediately. A small amount of calcium chloride is specific for such respiratory failure and gives immediate relief, according to Meltzer.

Fischer, in 1916, first used magnesium sulphate intravenously for eclampsia. He believed that the convulsion was an expression of an acute acid intoxication with edema of the central nervous system. He used 250 cc. of a 2 per cent solution to further dehydration.

Loomis and Sherrick of Oakland, Calif., and one of us (L. G. M.) used magnesium sulphate intravenously for eclampsia in 1916. Loomis and Sherrick still use the more dilute solution, 2 per cent with 0.7 Gm. of calcium chloride to the liter, and the dose varies with the patient from 250 to 300 cc. They also use bleeding, increased fluid intake, high colonic flushings and saline catharsis, and recommend heavy doses of morphine in 2 cc. of 50 per cent magnesium sulphate subcutaneously.

Alton and Lincoln[11] controlled the convulsions of eclampsia in four patients by small intraspinal injections of 25 per cent magnesium sulphate. They quote seven observers who have used the salt intraspinally, subcutaneously and intramuscularly.

Dorsett[12] recently reported thirty-eight cases with very definite good results following the intramuscular injection of 15 cc. of a 25 per cent solution.

Lazard,[13] in a preliminary report, gave the result in the first seventeen eclamptic patients observed at the Los Angeles General Hospital.

We were greatly interested at this time to read the excellent results obtained by Blackfan and Hamilton[14] in the treatment of uremia in acute glomerular nephritis in children, by the use of a 1 per cent magnesium sulphate solution intravenously, and of larger doses by mouth and rectum.

The Los Angeles Obstetrical Society, two years ago, appointed a committee (Lazard, Irwin and Vruwink) to study, collect and report on the results of magnesium sulphate intravenously in eclampsia. This extended report with case records has been prepared for publication, and the startlingly good results have verified the earlier predictions regarding its use. This report includes all the known instances in which magnesium sulphate has been used intravenously in concentrated solution for the prevention and control of eclampsia. Most of such cases were collected in and around Los Angeles. The series consists of 142 records, forty-five of preeclamptic and 103 of eclamptic patients. Of the preeclamptic patients, twenty-three were at the Los Angeles General Hospital and twenty-two were private patients. Six of the preeclamptic patients developed convulsions and were therefore classified as eclamptic. Thirty-eight delivered spontaneously, three labors were induced, and five were assisted in labor by forceps or version and extraction. There were seven elective cesarean sections, all in private practice. There were twenty-four living babies, six premature stillborn and three full term stillborn babies.

In the eclamptic series, there were 103 cases, fifty-four at the General Hospital and forty-nine in private practice. Eighty-nine patients recovered and fourteen died from all causes, giving a gross mortality of 13.6 per cent. Of these deaths, one occurred three weeks post partum from sepsis, after the patient had definitely recovered from her eclampsia. One died six days after her last convulsion on the operating room table during cesarean section, from shock; the uterus was eventrated. One patient had bronchopneumonia and pulmonary edema, and was moribund when admitted to the hospital. Two, as proved by necropsy, had no liver changes of eclampsia and presented true cases of nephritis. A correction for these deaths is unquestionably permitted in a discussion of the effect of magnesium sulphate in eclampsia, and we have 100 cases with nine deaths with a mortality of 9 per cent. There were seven deaths from toxemia at the General Hospital

9. Fischer, M. H.: Detroit M. J. **16**: 1, 1916.
10. Bowman, E. C.: South. M. J. **18**: 351, 1925.
11. Alton, B. H., and Lincoln, G. C.: Am. J. Obst. & Gynec. **9**: 167 (Feb.) 1925.
12. Dorsett, L.: Am. J. Obst. & Gynec. **11**: 227, 1926.
13. Lazard, E. M.: Am. J. Obst. & Gynec. **9**: 178 (Feb.) 1925.
14. Blackfan, K. D., and Hamilton, B.: Boston M. & S. J. **193**: 617 (Oct. 1) 1925.

in patients poorly qualified to withstand the shock of toxemia. There were seventy-five babies born in antepartum or intrapartum eclamptic mothers. Six patients died undelivered. In each instance, operative intervention would only have increased the already grave prognosis. There were forty-eight living babies, sixteen premature stillborn and ten full term stillborn infants.

The mortality rate at the Los Angeles General Hospital in the preceding five years was 36 per cent. With magnesium sulphate, this was reduced to 14.8 per cent, a reduction of 60 per cent. The evident excellent results attained by the intravenous injection of magnesium sulphate and no other measures naturally led to its use in preeclamptic toxemias, so that of forty-five patients with definite preeclampsia, only six developed convulsions after its use.

The majority of our patients at the General Hospital are Mexicans, who are poor surgical risks. Very few have had prenatal care, and the results obtained with this class of patient at the General Hospital should be, and are, greatly inferior to results in patients with more resistance.

The prognosis in definite nephritic types is bad, and all known measures of diagnosis should be instituted to eliminate this group; particularly in early stages, termination of labor is of value in curbing the progress of disease in the kidneys. In the enthusiasm and zeal to treat the eclamptic feature of pregnancy by conservative measures, one should always be on guard to deal with the dystocia of labor. Abnormal labor in the presence of eclampsia is entirely possible and must be managed according to the dictates of good obstetrics, regardless of the presence or absence of convulsions.

The effect of 20 cc. of a 10 per cent solution of magnesium sulphate was first tried at the General Hospital by Emil J. Bogen, a pupil of Martin H. Fischer, in May, 1924. The first patient, an eclamptic woman moribund on admission, died, but the succeeding four patients recovered promptly and completely with no further medication or intervention. Magnesium sulphate infusions have been the basis for all subsequent treatment of the toxemias of pregnancy at the General Hospital and in private practice. It was a little difficult to adjust ourselves and give only this intravenous medication; but, as our results improved with decreased handling and less medication, the following scheme of treatment for all the General Hospital patients was advised.

A. *Treatment of Preeclamptic Toxemia:*
1. Usual restriction of diet (nonprotein-salt free).
2. Pushing of fluids.
3. Bowels kept active with magnesium sulphate, one-half ounce daily.
4. Daily output of urine measured (chemical and microscopic examination daily).
5. Blood pressure taken twice daily.
6. Twenty cc. of 10 per cent solution of magnesium sulphate to be administered intravenously when systolic blood pressure is 150 or over, repeated if indicated (by rise of blood pressure or increase in other symptoms of toxemia).
7. Interruption of pregnancy only to be done with consent of senior attending obstetrician. (Termination of pregnancy is indicated only when symptoms persistently recur and do not respond to treatment.)

B. *Treatment of Eclampsia:*
1. Twenty cc. of 10 per cent magnesium sulphate intravenously as soon after first convulsion as possible; repeated every hour after until convulsions are controlled.
2. Blood pressure taken every hour after convulsions are controlled, and if blood pressure begins to rise nearing its height at time of convulsions, magnesium sulphate repeated; also repeated if convulsions recur.
3. Patients who are comatose or very restless in a semicomatose delirium and whose blood pressure is falling should receive chloral hydrate, 20 grains (1.3 Gm.), and sodium bromide, 60 grains (4 Gm.) by rectum.
4. Utmost quiet to be observed and nurse to be constantly with patient until latter is out of coma.
5. Oxygen inhalations to be given after each convulsion until breathing is normal.
6. All patients to be prepared for delivery as soon as they are quiet enough to do so.
7. If patient is in labor, nitrous oxide gas for pains.
8. If in second stage of labor and proper progress is not being made, low forceps extraction or version, with the consent of attending obstetrician.
9. No cesarean section to be done without consent of the senior attending obstetrician.
10. Attending obstetrician to be notified as soon as any eclamptic patient is received in the ward.

The active care of our eclamptic patients has resolved itself into the very conservative rôle of providing elimination, usually with saturated magnesium sulphate by mouth, protecting the patient in the usual manner, and controlling the convulsions with repeated doses of intravenous magnesium sulphate. The subsequent coma and acidosis present a problem which must be considered and treated by other measures. We still believe that the pregnancy should at times be interrupted, but only when repeated injections of sulphate do not give protracted and permanent relief, and never during the active period of a convulsion.

We definitely plan to control convulsions and promote elimination. Magnesium sulphate is not advised for the relief of coma. Other factors enter into the production of coma, which require other measures of therapy. In our opinion, these are rest and measures for the reduction of acidosis. It does not include radical procedures to empty the uterus. The comas subsequent to uremia and cerebral hemorrhage are as difficult to deal with as they are outside the pregnant state, and the prognosis is equally grave.

In spite of the reduction of a gross mortality of 36 per cent to a gross mortality of 14.8 per cent, in the General Hospital eclamptic series, our greatest enthusiasm centers about the reduction in morbidity in the preeclamptic series. Prophylactic magnesium sulphate intravenously in twenty-three cases prevented convulsions, except in three cases, and in the entire series there was not a single cesarean section. There is some difference of opinion regarding the necessity of terminating labor. We believe that, if there is no constant and protracted alleviation of symptoms, the best interests of mother and baby are served by interrupting the pregnancy. In the primipara, we prefer cesarean section under local, gas or spinal anesthesia, and in the multipara, by more conservative measures. Repeated records show, however, that patients, even after repeated convulsions, may be carried several weeks to term and spontaneous labor.

In hypertonic magnesium sulphate, given intravenously in doses of from 10 to 25 cc. of a 10 per cent solution, we definitely believe that we have an agent that will usually prevent and control convulsions. We believe that this action is due first to its anesthetic and inhibiting properties and maintained by relieved tissue edema, particularly of the brain. If clinical observations continue to prove this action, we should find in magnesium sulphate intravenously an ideal combination

for the therapy of puerperal toxemia. The pathology of eclampsia is definite and further treatment is necessary to relieve tissue injury, to prevent acidosis, to aid in anabolic processes, and to provide elimination. If definite improvement is not maintained following injection, we believe that the pregnancy should be terminated. As a prophylactic agent, it will give definite results, the toxic symptoms will frequently disappear entirely, or the condition will be arrested and the patient go on to normal labor. If, on repeated injections, the toxic symptoms recur, pregnancy should be terminated. Regardless of the eventual course of the toxic state, intravenous medication places our patient in a condition with increased resistance and eliminates the dangers subsequent to convulsions both for the mother and for the baby. The observations of Blackfan and Hamilton aid in this assumption.

It may be later established that the method of Fischer, Loomis and Sherrick, of adding more water, and particularly calcium chloride, to the infusion, may be the method of choice. In our hands, however, we have had no respiratory failure. A smaller dose, we believe, may be given with less discomfort and with greater facility. The demand for increased fluid may be met preferably as a glucose infusion.

CONCLUSIONS

1. The intravenous injection of a 10 per cent solution of magnesium sulphate is a valuable adjunct in our treatment of the toxemia of pregnancy. It will cause some reduction of blood pressure, reduce edema, increase urinary output, and reduce or control other symptoms.

2. The intravenous injection of a 10 per cent solution of magnesium sulphate will control the convulsions of eclampsia in nearly every case, and exercises a favorable influence on the other symptoms of eclampsia.

3. It is a safe procedure.

4. Further investigation should be made to determine the relative value of the dosage outlined herein, as compared with the lower percentage and larger volume.

1021 Pacific Mutual Building.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. POLAK, GREENHILL, DAVIS AND HARRAR, AND MCNEILE AND VRUWINK

DR. E. M. LAZARD, Los Angeles: In the Los Angeles General Hospital we have had in the last two years fifty-eight cases of the convulsive type of eclampsia, out of approximately 2,400 cases, or about 2.5 per hundred, which is a reflection on the prenatal care, or lack of prenatal care, in and around the city of Los Angeles for the poor patients. An explanation possibly is in order. The Los Angeles General Hospital serves not only the city of Los Angeles but also the entire county, a population in the neighborhood of 2,000,000, serving all the poor, with many patients transported many miles. Many of our eclamptic patients have been brought in, in the eclamptic state, transported from 10 to 30 miles to the hospital, so that our cases are as a class neglected cases. As our incidence is high, the cases that we have treated have been severe, and that, I think, explains the high mortality as well as the high incidence, the mortality being 36 per cent in the five years immediately preceding the beginning of this method of treatment; this mortality has dropped to 14.8 per cent under the magnesium sulphate treatment. The cases that were outside the General Hospital and in the hands of private practitioners, and had more or less competent prenatal care, numbered forty-nine, with a mortality of five. One of these patients who died had nephritis without any eclamptic changes in the liver, and another had been operated on after recovery from eclampsia. We have also been encouraged in the results we have obtained in preeclamptic patients who received magnesium sulphate intravenously in addition to the usual treatment.

DR. JOSEPH L. BAER, Chicago: My own views on the toxemia and eclampsia of pregnancy were presented by Dr. Polak. There was one point in his outline, however, on which I should like to comment. He deprecated the value of blood chemistry until after delivery. A great deal has been done by urologists and internists in the field of renal pathologic physiology; so much, in fact, that we of the Section on Obstetrics and Gynecology have been left somewhat behind. It behooves us to take cognizance of their work and endeavor to apply it to our field. There is no doubt that renal disability which occurs in the absence of pregnancy is further augmented by the presence of pregnancy. The split products of placental and fetal metabolism which act as irritants to the kidney are just that much additional trauma to which the kidney is subjected. Heretofore, in this country, blood chemistry has resolved itself essentially into an estimation of the nonprotein nitrogen. There is no doubt as to its value. Unfortunately, however, in the second half of pregnancy, a woman given a liberal intake of protein will show an excessive nonprotein nitrogen without any other symptoms of toxemia or the preeclamptic state, and, likewise, women under careful control with apparent cessation of all symptoms may suddenly get an exacerbation of symptoms from no apparent cause without a previous increase in nonprotein nitrogen. There are present in the blood, in the presence of a nephritis, a trauma of the renal vascular system, two substances, indican and xanthoprotein, both of which are in excess and both of which should be detectable in the blood. The point they emphasize is that both these aromatics appear early and persist. In the absence of all clinical symptoms there is still indican and xanthoprotein in excess. If this is true, applied to our own specialty it would be invaluable, and it leads to the thought, which I should like to offer as a hypothesis, that a pregnant woman does not become nephritic because she is eclamptic, but she becomes eclamptic because she is already nephritic. We must detect these nephritic conditions early, when the toxemia first makes its appearance; therefore, our ideal routine, in the care of the pregnant woman, would be regular, minute urinary examinations and frequent blood pressure readings; tests for hyposthenuria, or rigidity of the kidney, so-called concentration tests and freshet tests; estimation of the output of chlorides, and lastly, in the suspicious cases, complete blood chemistry studies.

DR. O. H. SCHWARZ, St. Louis: Dr. Dorsett of St. Louis has now treated with magnesium sulphate forty-five cases of eclampsia with convulsions. He used the drug intramuscularly, 15 cc. of a 25 per cent solution. We have used 5 cc. doses, repeating them as indicated, and have controlled convulsions with as little as 10 cc. of a 25 per cent solution. In the treatment of pernicious vomiting of pregnancy, we have followed out about the same line of treatment as Dr. Polak outlined. We have now treated more than twenty severe cases without resorting to therapeutic abortion. We agree with Dr. Polak that a therapeutic abortion is seldom indicated. A rather interesting fact has come to my attention recently in studying the gastric juice of women in early pregnancy. Dr. Arzt found that there frequently was a complete absence of free hydrochloric acid. In running fractional analyses in a series of twenty-six cases he found that both the total, as well as the free, hydrochloric acid was markedly diminished. This would appear at first thought to mean that there is a diminution in the secretion of free hydrochloric acid in early pregnancy. Dr. Duff Allen, who is now working on the formation of carbon dioxide in the stomach, suggested to us that this apparent absence of hydrochloric acid might be due to regurgitation of alkaline duodenal contents which contained a considerable amount of sodium carbonate, thus neutralizing the hydrochloric acid in the stomach. In making chloride analyses in eight of these cases, a normal chloride content was found. This would suggest that regurgitation was very probable. Irrespective of the cause of this apparent achlorhydria, it would seem advisable to give diluted hydrochloric acid (U. S. P.) in small doses in early cases of

nausea and vomiting in which this achlorhydria exists. This has been done in twenty cases in our service with astonishing results; and since the administration of diluted hydrochloric acid is a harmless procedure, we do not hesitate to suggest it as an additional means of helping mild cases of nausea and vomiting in early pregnancy.

DR. J. P. GREENHILL, Chicago: I realized that few obstetricians would agree with me in advocating termination of pregnancy for eclampsia. This belief was based on the fact that within recent years many obstetricians who formerly favored emptying of the uterus returned to conservative therapy. In large part the change in treatment may be attributed to the bad results obtained by accouchement forcé. Dr. Davis' statistics and mine are not from a very select class of patients, as Dr. Lazard might lead one to believe. A large proportion of our patients were sent to us after they had had convulsions at home, and the majority of these were admitted in coma. Dr. Davis' statistics which show a reduction in the maternal mortality from 36 per cent in 1905 to 15 per cent, and a reduction in fetal mortality from 55 per cent to 34 per cent for recent years when conservative therapy was practiced, are still much higher than the figures I presented. Dr. Vruwink's maternal mortality was almost 15 per cent. Our uncorrected maternal mortality was 7.7 per cent, and our uncorrected fetal mortality was 27.7 per cent. Hence, even though in individual hospitals there have been definite decreases in the mortality rates, they have not come down to the figures quoted for the Chicago Lying-in Hospital, where active treatment is the rule. I realize that Dr. Lazard's statistics might have shown better results had they come from a purely lying-in hospital. Our results are based on care in a special maternity hospital where most of the operative procedures are carried out by persons who are especially trained in obstetrics. I emphasized that for the man who is not a specialist or skilled in obstetrics or one who must work in a general hospital, where obstetric cases and pus cases are treated in the same rooms, there is great danger in attempting to operate, especially on eclamptic patients. I fully agree with Dr. Polak about the value of blood chemistry and the use of anesthesia. Toxemic patients cannot tolerate inhalation anesthesia very well. For that reason I emphasized that local anesthesia should be used whenever possible.

DR. ASA B. DAVIS, New York: I did not quite complete our method of treatment. We have no routine treatment. Our idea is that each case should be treated individually, and we find that many of these women go into labor spontaneously. We assist where it is possible without too much interference. A certain number of cases are better treated by cesarean section. Sometimes we find that they are like a ship running on the rock, liable to wreck, and we are trying to salvage what we can—the mother and the child if we can, or either one of them, and we can often do that after treatment has failed. When they are growing worse all the time apparently, our routine treatment, as much as we have one now, is to give a hypodermic of morphine immediately after admission to the hospital. We then wash out the stomach, and while the tube is in place, we put in 2 ounces of magnesium sulphate. That has been our treatment for years. As we get farther along and have more time to handle these cases, we can clear up the intestinal tract by high colonic irrigations. The patient is kept quiet so far as possible. We are not apt to bleed before delivery. We have used this treatment for thirty years and in some cases the results are perfectly startling. We have no more trouble, or only a few weak convulsions, and the thing ends. We have not undertaken to any extent the treatment by magnesium sulphate intravenously. Dr. Harrar became interested in it, and just before we came away he told me that in five cases he had tried this, using a 50 per cent solution, 2 cc. intravenously, and there were no more convulsions.

DR. JOHN VRUWINK, Los Angeles: When we went over the case reports, we were astounded by the variation and multiplicity in individual treatment. Everything ever suggested was attempted on the same patient—gastric lavage, colonic flushings, veratrum viride hot packs, morphine, bleeding and insufficient sulphate by vein. The individual physician has only an occasional eclamptic patient; there is no standard treatment, and it is small wonder to see the many attempts to relieve a fearful condition. We were fortunate in having most of the men in the vicinity of Los Angeles interested in the work on magnesium sulphate, and it was for that reason that we were able to get the number of eclamptic patients that we did. With the use of magnesium sulphate, we are trying to eliminate as much as possible the things we do not believe are essential. We believe that we can eliminate all gastric lavage; we believe that we can eliminate all colon flushings, hot packs and veratrum viride. We are not so certain that we can eliminate the use of morphine entirely, but we are fairly sure that we can eliminate bleeding. We know we can control the number of convulsions and we believe that we do, in some way, detoxicate our patients, and we know that patients who have suppression of urine frequently void from 500 to 1,000 cc. of urine after injections of magnesium sulphate intravenously, with no other medication or treatment.

Clinical Notes, Suggestions, and New Instruments

WATER-DRIVEN BREAST PUMP

ISAAC A. ABT, M.D., CHICAGO

It has frequently occurred to me that a breast pump might be devised in which the suction is produced by water pressure. Such a pump could be used in any home by attaching it to a water faucet. The advantages of this water-power breast pump would obviously be its low cost and ease with which it could be carried about.

The first experiments with a water pump, conducted some three years ago, were unsatisfactory. It produces suction only, and, unlike the electric pump, there is no alternate back pressure which relieves the congestion in the nipple occurring during each suction impulse. As a consequence, the nipples became sore in our first experiment with the water-driven pump. Therefore the idea was temporarily abandoned. Subsequent tests have shown that a water-driven pump can be successfully used in conjunction with a suction-regulating device, when it is desired to promote the flow of milk. It is necessary for the successful operation of this device that the suction be regulated and not excessive, and that after each moderate pull there be a pause produced by release of the suction. The water pump can also be used to ascertain the quality of milk the mother produces and to draw out inverted nipples. On the other hand, the device is far less efficient than the electric breast pump in stimulating the milk secretion and in reestablishing milk in a dry breast. Furthermore, the water pump does not succeed as well in fissured nipples and in engorged or caked breasts, in which the back pressure afforded by the electric machine proves of the greatest benefit.

In detail, the water power breast pump works as follows: The nipple shield empties the milk directly into a 4 ounce nursing bottle. The evacuating tube and the nipple shield are made in one piece for sanitary reasons. With a 4 ounce nursing bottle much better results are obtained than with larger bottles, because the suction rises more quickly from zero to the desired maximum when a smaller volume of air has to be exhausted. As a result, the effectiveness of each suction impulse is increased without increasing the suction time.

Still more efficient than the 4 ounce nursing bottle is the small bottle used with the electric machine. When stimulation of milk secretion is needed, this small bottle should be employed. The water pump produces continual suction as long as the breast seals the nipple shield air tight. Alternate suction and release is accomplished by opening and closing a small hole located conveniently at the nipple shield. A finger of the hand which holds the bottle opens and closes the

aperture. A vacuum indicator shows the intensity of the suction. Experience has shown that it is difficult to make some mothers operate the device with the greatest efficiency because they make and break the suction either too fast or too slow. They do not relieve the suction sufficiently long after each impulse.

Tests have shown that the best results are obtained when between thirty and forty suctions per minute are applied, and when the release period after each suction impulse is as long as the suction period. The manufacturer will furnish a weighted string with the appliance, which, when used as a swinging pendulum, will indicate to the mother the proper time of suction and release.

It is, of course, preferable to have the suction interrupted automatically, and the manufacturer hopes to perfect an automatic process in the near future.

The intensity of the suction is regulated by increasing or diminishing the stream of water that runs through the pump.

Unfortunately, water pressure is so low in some localities that these pumps cannot always be operated effectively.

104 South Michigan Avenue.

A SCARLATINOID INFECTION DUE TO STREPTOCOCCUS VIRIDANS *

EDWARD STEINFIELD, M.D., PHILADELPHIA

During the winter of 1925-1926 there was noted with considerable frequency an acute infection due presumably to a *Streptococcus viridans* which was uniformly recovered from the throat and inflammatory exudates. The occurrence of a cutaneous eruption and a predilection to produce hemorrhagic nephritis were the causes of some confusion in differentiating this syndrome from true scarlet fever due to the hemolytic streptococcus. All ages were affected and in many instances most of the members of the same household. The onset was sudden and resembled grip or influenza, with fever of from 101 to 103 F., intense headache, nausea and vomiting. Herpes was absent. The throat was markedly injected, the pulse was rapid out of proportion to the temperature; there were no pulmonary signs throughout the course. A moderate leukocytosis was the rule. In from twenty-four to forty-eight hours an indefinite exanthem appeared over the trunk and to a lesser extent on the extremities. This slightly resembled a scarlatinal eruption, but areas of small papular lesions often were mixed with the punctate rash; this appearance, however, is occasionally noted in true scarlet fever. Desquamation was of a fine or furfuraceous character. A hemorrhagic nephritis frequently appeared at the time of the exanthem or several days later, ushered in by a marked diminution in the twenty-four hour quantity of urine. Singularly, this condition was noted with greater frequency than in the true scarlet fever which was prevalent during the same period. The urine was smoky or bloody in appearance, and contained large amounts of albumin, red blood cells, blood casts and granular casts. A number of cases were observed in which a hemorrhagic nephritis appeared though no exanthem was noted; these varying combinations were at times seen in members of the same family. The duration of the febrile period was from one to two weeks, but was protracted if complications ensued. These complications included peritonsillar abscess, retropharyngeal abscess, otitis media, sinusitis, suppuration of the cervical lymph nodes and, in one case, erysipelas. *Streptococcus viridans* or occasionally the anhemolytic (gamma) streptococcus was uniformly recovered in pure culture from the exudates.

DIFFERENTIAL DIAGNOSIS

The infection was differentiated from scarlet fever on clinical grounds because of its infectivity for all ages (even up to the seventh decade), which is the exception rather than the rule in scarlet fever; by the atypical nature of the exanthem as described above, and more conclusively by a subsequent infection with true scarlet fever, which was noted in two patients.

BACTERIOLOGY

Cultures from the throat and exudates of inflammatory complications elicited a *Streptococcus viridans* in contrast to the presence of the hemolytic streptococcus, which is now implicated as the etiologic agent in true scarlet fever. The majority of the strains that were studied fermented lactose and salicin, but not mannitol. A toxin was prepared by the method utilized by the Dicks in the production of toxin from scarlatinal hemolytic streptococci. Definite intracutaneous reactions could be elicited in normal subjects in dilution of 1:500, showing apparently a weaker production of toxin than the Dick toxin, at least in its power of cutaneous irritation. Controls of toxin heated at 100 C. for one hour were used to detect pseudoreactions. Similar tests after neutralization with convalescent serum could be carried out in only a few instances, because of inability to follow up these cases. It was possible, however, to demonstrate this neutralization by the serum of two convalescent patients, whereas controls of normal serum had no effect. The comparison of Dick tests with the *Streptococcus viridans* toxin during the infection and after convalescence was not carried out.

The prognosis was favorable, and even marked cases of hemorrhagic nephritis tended toward recovery. The favorable action of scarlatinal antitoxin, which was at times used when the diagnosis was in doubt, may be attributed to the close biologic relationship of these strains and possibly, in part, to a nonspecific reaction.

Central Medical Building.

* Bacteriologic studies from the Laboratories of the Jewish Hospital.

REAPPEARANCE OF REACTION AT SITE OF PREVIOUS DICK TEST COINCIDENT WITH APPEARANCE OF MEASLES RASH IN A CASE OF MEASLES *

N. S. FERRY, M.D., DETROIT

S. F., a man, aged 21, who had not had scarlet fever, had been acting as a test subject for the standardization of scarlet fever toxin and antitoxin, and usually exhibited a typical Dick reaction from 2 to 3 cm. in diameter.

April 6, 1926, he was given, on the anterior surface of the right forearm, two intracutaneous injections of scarlet fever toxin, one containing 5 skin test doses of standard toxin as furnished by the Hygienic Laboratory, Washington, and the other, two inches below, containing 1 skin test dose of test toxin.

At the same time, two intracutaneous injections of 5 skin test doses of toxin were given on the left forearm, each neutralized with scarlet fever antitoxin, the upper injection containing more antitoxin than was sufficient to neutralize the toxin. As neither of the last two sites showed a reaction at the end of forty-eight hours, while the toxin reaction on the right arm was positive, the toxin was considered neutralized.

April 8, two more intracutaneous injections of 3 skin test doses, each of the same toxin, were made into the skin of the right arm just below the deltoid. Both reactions reached a diameter of 3 cm. and faded completely in seventy-two hours, at which time all reactions had disappeared.

By April 14, the patient had contracted a light case of measles with a typical rash covering the entire body. At the same time there appeared localized bright red reactions at the sites of the previous Dick tests mentioned above, with the exception of the site on the left arm into which had been injected the overneutralized mixture of toxin and antitoxin.

The second Dick reactions appeared very similar to the first, as to both size and intensity, and were easily distinguished from the measles rash. These reactions persisted for about twenty-four hours and then rapidly faded. The reaction on the right arm, at the site which received the largest dose of toxin (5 skin test doses), was the last to disappear, the measles rash in the meantime remaining unchanged.

* From the Medical Research Laboratories, Parke, Davis & Co.

COMMENT

It is hard to conjecture just what this phenomenon signifies. It is doubtful, however, that it is in any way an evidence of the relationship of the two diseases or the organisms causing them unless there is a nonspecific toxin or poison, common to the organisms causing these diseases, which is found associated with their specific toxins.

The last statement is based on the assumption that the toxin obtained from *Streptococcus scarlatinae*, as described by the Dicks,[1] is a true toxin and specific to scarlet fever, and that the toxin obtained from *Streptococcus morbilli*, as described by Ferry and Fisher,[2] is specific to measles.

That the two organisms and their toxin differ, there is no doubt. *Streptococcus scarlatinae* is of the hemolytic variety, while its toxin, which is neutralized by scarlet fever convalescent serum and not by measles convalescent serum, has so far failed to produce a typical reaction in the rabbit. *Streptococcus morbilli* of measles, on the other hand, is a typical *Streptococcus viridans*. It produces a true toxin, which is neutralized by measles convalescent serum and not by scarlet fever convalescent serum and which stimulates a typical skin reaction in the rabbit. Also, the antitoxin produced in an animal by either one of these organisms will not neutralize the toxin from the other, as was shown by Ferry and Fisher.

THE DIAGNOSIS OF GONORRHEA BY CULTURE

R. B. H. GRADWOHL, M.D., ST. LOUIS

The clinical pathologist, the urologist and the gynecologist are frequently consulted in obscure and uncertain cases of urethral, vaginal and uterine discharges. The time-honored method has been to make one stain with ordinary methylene blue and another by the gram stain. If gram negative diplococci are found, some have had the temerity to call them gonococci. I myself have always been averse to doing so, making my reports read "gram-negative diplococci found, resembling gonococci." This, of course, is an inconclusive and often useless report.

In order to make a proper bacteriologic diagnosis, I have from time to time attempted to cultivate the organism present and prove its identity. I have used a number of mediums recommended by various authorities, such as blood serum and ascitic fluid agar and milk agar. Success has not always attended my efforts. The gonococcus does not grow readily on ordinary mediums. It does not show its characteristics on many special mediums.

I endeavored to find a method of making a reliable diagnosis of gonorrhea by an appropriate medium which would clearly differentiate it from other simulating organisms. I have followed Mulsow's[1] technic. For my own work I have slightly modified his method, retaining, however, the basic ingredients of the medium.

The following is the standard medium used in routine work:

Five hundred grams of ground lean beef is infused in 500 cc. of distilled water and allowed to stand in the icebox over night. The following morning, 30 Gm. of agar is dissolved by boiling in 500 cc. of distilled water. The agar is allowed to cool to between 60 and 70 C., and the meat infusion is immediately mixed with the agar. This mixture is again heated until the meat is thoroughly coagulated. It is then filtered through glass wool packed in the stem of a glass funnel. This filtrate will appear slightly cloudy at this time. In the filtrate is dissolved 1 per cent peptone and 0.5 per cent sodium chloride.

The medium is adjusted to p_H 7.6 to 7.8, allowed to cool to 60 C., and the white of an egg thoroughly mixed in. It is next brought to a boil and again filtered through glass wool. If the flask and filtering funnel are placed in an Arnold sterilizer, the filtration is hastened and a crystal clear agar results.

To this medium is added 1 per cent chemically pure levulose (made from inulin), and sufficient 0.5 per cent aqueous bromcresol purple indicator to color the medium a rich purple. The whole is then autoclaved at 5 pounds pressure for forty-five minutes. When the medium has cooled to between 60 and 70 C., 1 part of sterile ascitic fluid, guinea-pig serum or human serum is added to 3 parts of medium, and the plates are poured to a depth of about one-eighth inch. The plates may then be stored in the icebox until ready for use. In inoculating plates, best results will be obtained if straight line streaks are made with a platinum loop, thus preventing confluence of colonies.

In the cover of the petri dish is inserted a piece of common blotting paper saturated with hydrogen peroxide. The plate is then inverted and incubated over night, and the next morning the suspicious colonies are fished and stained by Gram's method.

All colonies exhibiting a zone of yellow (showing acid production from levulose) are disregarded. All colonies showing an opaque whitish luster similar to *Staphylococcus albus* are disregarded. Typical colonies of *Neisseria gonorrhoeae* can be indentified by the low power objective of the microscope, the 9 × eyepiece or even by the naked eye after practice. The colonies in eighteen hours are about the size of a pin head, round, translucent, finely granular, and with a pearly opalescence by transmitted light—the latter characteristic being always striking. The colonies also are mucoid, adhering to the medium, though emulsifying in water fairly easily. On staining, the individual organisms are moderately large, decolorize very quickly in 95 per cent alcohol, and exhibit the typical appearance of small groups and single organisms.

After eighteen or twenty-four hours, the gram stain shows the colony to contain considerable numbers of autolyzed organisms—a very important diagnostic point. Also after this period the individual colonies enlarge to considerable size, and show many supergrowths, radial striations, lobated margin, and concentric "oil drop" appearance. *N. gonorrhoeae* may be distinguished from *Micrococcus catarrhalis* by its failure to grow on common infusion agar and its tendency toward early autolysis.

I have used this technic with marked success for a considerable time and recommend it for its simplicity and unfailing results. It must be borne in mind that plenty of moisture must be present at all times to insure successful cultivation of *N. gonorrhoeae*.

3514 Lucas Avenue.

1. Dick, G. F., and Dick, Gladys H.: A Skin Test for Susceptibility to Scarlet Fever, J. A. M. A. **82**: 265 (Jan. 26) 1924.
2. Ferry, N. S., and Fisher, L. W.: Measles Toxin: Its Preparation and Application as a Skin Test, as an Immunizing Agent, and for the Production of an Antitoxin, J. A. M. A. **86**: 932 (March 27) 1926.
1. Mulsow, F. W.: J. Infect. Dis. **36**: 419 (April) 1925.

THE TREATMENT OF ROENTGEN-RAY NAILS

CURRAN POPE, M.D., LOUISVILLE, KY.

Many roentgen-ray operators suffer from roentgenographers' nails. These usually present a trophic appearance; they are rough, ridged and dirty. The literature to which I have access does not consider their treatment. The method here described has given me excellent results. It requires patience and perseverance. The hands and nails are cleansed with a soft brush and good soap. The hands are bathed in very hot water, then immersed for a few seconds in very cold water, and rubbed dry with a crash towel. The entire hand is anointed with olive oil and the oil is worked into the nails, especially their corners and edges, by means of an orangewood stick. This had best be done in the evening, the surplus oil left on the fingers, and a pair of gloves worn during the night. In the morning the hands should be again cleansed, rubbed with olive oil, and the oil wiped off with a towel. After this treatment has been followed for six or eight weeks, one should consult a good manicurist, explain the condition, and have the nails manicured with great care. The nails should be trimmed, prepared, and finally a glaze put on them. This fills the ridges, closes the pores, prevents them from cracking or breaking, gives a smooth and glistening appearance, and prevents the collection of dirt.

Among the physical measures that may be employed constantly is that of the alternation of hot and cold water, a

sort of Scotch douche. This treatment will usually result in a presentable set of nails. Ordinary care and thorough attention given by the manicurist is all that is necessary to keep the nails in excellent condition.

Any one who has had roentgen-ray nails and has succeeded in getting the fingers and nails in good condition must continue to take care of them.

115 West Chestnut Street.

Special Article

THE TECHNIC OF MEDICATION

A SERIES OF ARTICLES ON THE METHODS OF PRESCRIBING AND PREPARING, THE INDICATIONS FOR, AND THE USES OF VARIOUS MEDICAMENTS *

BERNARD FANTUS, M.D.
Associate Clinical Professor of Medicine, Rush Medical College
CHICAGO

(Continued from page 171)

ENDERMIC INJECTION

Endermic injection, or intracutaneous injection, is the introduction of material into the tissue of the skin. Only a very small amount of fluid can be introduced into the derma, and this will have maximum local effect on it. Hence this method is useful for local anesthesia of the skin, and for obtaining skin reactions as in the Schick or the Dick tests, or the pollen extract and other tests for hypersensitiveness.

Absorption after endermic injection is decidedly slower than after any of the other injection methods. It may be so slow that the characteristic systemic effect of the agent might fail to develop. Thus, phlorhizin, 2 mg., injected subcutaneously, produces glycosuria in twenty minutes; injected endermically, it fails to act.[78]

Certain effects, common to all injections, which develop local reactions have been noted:[79] (1) an immediate drop in blood pressure, due to the pain; (2) a red area surrounding the place of injection which is proportional to the painfulness of the injection and to the vasomotor lability of the subject; (3) a diminution in the number of leukocytes in the circulation. All of these effects are, of course, more or less evanescent.

Endermic injection is perhaps best made on the flexor surfaces, where the skin is soft and yielding, as of the forearm. The needle is introduced—bevel side up—into and not through the skin until the bevel has been passed in completely. The test of the success of the procedure is the immediate appearance of a small white elevation (wheal) on injection of one or two drops of fluid.

Endermic Inoculation.—Endermic inoculation is practiced most commonly in connection with vaccination against smallpox as well as with tests for hypersensitiveness, though endermic injection is as good, possibly better. The technic generally used is to sterilize the skin with alcohol, which must then in vaccination be completely removed by liberal douching with sterile water. Permitting any antiseptic material to come in contact with vaccine virus is fatal to the success of the procedure, as it will kill the virus. The surface is then carefully dried with sterile gauze, and scratched with a sharp sterile needle just down to the true skin. There should be no bleeding. The virus, commonly obtained in glass capillaries, is deposited on the spot by breaking off the sealed ends of the tube and expelling its contents on the abraded spot by means of the little rubber bulb furnished with the vaccine. The virus is then rubbed in thoroughly by means of the needle. The site of inoculation is permitted to dry somewhat for a few minutes, covered with a pad of sterile gauze with a hole cut in the center, another to cover it all, and the whole fastened down by a frame of strips of adhesive plaster. Vaccination shields are generally not desirable.

SUBCUTANEOUS INJECTION

Subcutaneous injection, also known as hypodermic administration, is an injection into the loose areolar tissue beneath the skin by means of a hollow needle attached to a small syringe.

In technic it differs from endermic injection in that a fold of the skin is raised with the thumb and index finger of one hand, while the needle is swiftly passed through the skin near the base of the fold and perpendicularly to the raised skin. Though introduced directly into the lymph stream, the agent, if soluble and diffusible, rapidly enters the blood stream by diffusion through the walls of the capillaries. Hence, with such agents, the effect of hypodermic injections can usually be observed within a few minutes. Were the absorption by way of the lymph stream, it would be very much slower. Rubbing or massage after the injection, which might favor absorption by the lymph stream, is probably of little or no importance ordinarily because of the rapidity of absorption through the blood stream. On account of this rapidity and completeness of absorption, the hypodermic dose is generally said to be about one half of the oral dose, though there are many exceptions to this rule. Epinephrine given hypodermically is not absorbed with sufficient rapidity to produce its characteristic effects on the circulation, though its antiasthmatic action may be secured. This is probably due to the fact that it shuts off to a great extent its own absorption by the vasoconstriction it produces. Even when an absorbable agent is administered hypodermically, absorption may be slow in conditions of great depression of the circulation and of lymph stagnation. Remedies should never be injected into a dropsical area. When the circulation is very feeble, as in heart failure, shock, collapse or extreme pain, intravenous injection should be preferred.

In marked contradistinction to the rapidity of absorption of soluble and diffusible bodies, almost insoluble, nondiffusible and colloidal bodies are absorbed very slowly from the subcutaneous tissue. This accounts for the fact that antitoxic serums, subcutaneously administered, do not develop their action for many hours, and that the quite insoluble mercurials, such as mercuric salicylate, produce so much local irritation as to be inapplicable in this way. Such bodies are preferably given intramuscularly.

Hypodermic administration is resorted to when the medicine cannot be swallowed, e. g., on account of unconsciousness; or retained by reason of vomiting or purging; or when greater rapidity of action is needed than could be secured by peroral administration, as in pain, hemorrhage or poisoning; or when the substance is rendered useless by the digestive juices.

The method is not without its restrictions, disadvantages and dangers. Not every medicament can be

* This is the thirtieth of a series of articles on "The Technic of Medication." When completed, the articles will be assembled in book form.

78. Rajka, Edmund: Klinisch-experimentelle Grundlagen einer intracutanen Therapie, Klin. Wchnschr. 3: 1027 (June 3) 1924.

79. Levai, Michael: Klinisch-experimentelle Grundlagen einer intracutanen Therapie, Klin. Wchnschr. 3: 447 (March 11) 1924.

given hypodermically. The agent must not be severely irritant, acid or alkaline, else it will produce pain, inflammation and even abscess formation, or necrosis. An insoluble substance deposited beneath the skin is liable to produce irritation; hence solutions for subcutaneous injection should be perfectly clear, nearly neutral in reaction, as isotonic [80] with serum as possible, and only those substances may be used that are soluble in water or in some reasonably bland fluid, such as much diluted alcohol, diluted glycerin, saponifiable oil or solutions of mild salts. If the substance requires oil for solution, as camphor, an absorbable oil like almond or olive oil must be chosen. Liquid petrolatum, when used for this purpose, has been known to give rise to tumor formation (paraffinoma). As the bulk of the solution must not be great, the average capacity of hypodermic syringes being 2 cc., nor the solution be concentrated, only very active medicines, given in small doses, are suitable for this purpose, unless it is given with the technic of hypodermic infusion. It must, of course, be sterile.

Hypodermic injections are generally given on the outer surface of the arm. As the outer aspect of the thigh is still less sensitive, it should be more frequently resorted to than it is. It should be the place of election in women suffering from severe infections with bacteremia, as in such cases abscesses are liable to develop even at the site of injection of nonirritating drugs; and these often leave disfiguring scars on healing. The thigh is the most convenient place for self-administration of hypodermic injections, as it permits the use of both hands. If the solution is nonirritating and deposited in loose tissue, it will generally not produce much pain. Irritating injections may be very painful, and even lead to destruction of tissue. Addition of a local anesthetic, as 1 to 2 per cent solution of procaine hydrochloride, to the solution of irritative substances lessens not only pain but also the inflammatory reaction. To add epinephrine would be a mistake, as it lessens the rapidity of absorption, and hence increases local destructive action. Indeed, epinephrine itself, injected subcutaneously in rather strong solution, may produce necrosis which is ascribed to prolonged vascular spasm and consequent impairment of nutrition. When it is desired to increase the rapidity of absorption and lessen pain following an injection, hot applications may be employed with advantage. Painting tincture of iodine over the site of injection is believed to lessen the liability of local injury following the procedure. It possibly does this by producing hyperemia and increasing the rate of absorption. Should a lessening of the rapidity of absorption be aimed at, as when an excessive dose has been given, cold application, injection of epinephrine solution and—if the danger warrants it—temporary interruption of the circulation by an Esmarch bandage should be resorted to. If an irritating injection cannot be avoided, it should be given "deep," that is, intramuscularly, or intravenously for reasons previously stated. Injections into the vicinity of nerves must be avoided, as they are liable to lead to more or less disabling neuritis.

Another disadvantage of these injections is that, unless there is a trained nurse in attendance, the physician himself must generally administer the dose, which is often a great inconvenience to both patient and physician. As a rule, the patient or his relatives are not entrusted with the administration of hypodermic injections. Especially important is this injunction in case of morphine, as there is great danger of the establishment of the morphine habit in a particularly vicious and enslaving form. However, it sometimes becomes necessary to instruct the patient in the use of the injection needle, as for the administration of insulin in diabetes, or of epinephrine in asthma; and this can be safely done with even moderately intelligent persons.

The dangers from hypodermic injection are (1) injection into a vein, and (2) infection. Injection into a vein, which would carry the entire dose at once to the vital centers, giving a suddenness and severity of action that may not be desired, is avoided by injecting into a part not well supplied with veins, such as the extensor surface of the arm or thigh; and, of course, by not injecting in the vicinity of visible veins.

The second danger, infection, with all its possibilities of abscess formation, loss of limb or even loss of life, can be avoided by surgical cleanliness. Hence the solution, the syringe and the part in which the injection is made must be sterile. How this is attended to has been previously discussed.

Subcutaneous Infusion.—This procedure, also known as hypodermoclysis, is the injection of large quantities of fluid into the subcutaneous tissues, and performed on the same principles and with the same precautions as the small subcutaneous injection, the procedure differing only in the use of a large needle and a larger apparatus (an irrigator), and 3 feet of rubber tubing. It should be given slowly, from fifteen to thirty minutes being required for the introduction of 500 cc. Usually from 800 to 1,200 cc. is infused during one injection, though a much larger amount can be given. The injection is best made at a point near the outer border of the pectoral muscles, midway between the nipple and the head of the humerus. Here absorption is almost twice as fast as it is when the injection is under the breast alone; but the large loose subcutaneous tissue areas of any other part of the body may be utilized. The fluid most commonly employed is 0.9 per cent salt solution; but half strength physiologic sodium chloride solution is probably more thirst quenching and not much more irritative. Willard Bartlett [81] employs for this purpose plain freshly distilled water, as harmful effects occasionally follow the absorption of very large amounts of sodium chloride. The fluid is heated to between 100 and 110 F., not higher, as there is danger of necrosis from injections of fluid at too high a temperature. As a certain amount of soreness of the injected area follows, and children usually resent this greatly, the intraperitoneal route is preferable for them.

80. V. Itallie (Pharm. Weekbl., abstr. J. Am. Pharm. A., November, 1919, p. 984) advises the following combinations to render alkaloidal solutions isotonic with human blood serum, thus lessening pain and irritation:

A 1 per cent morphine hydrochloride solution requires the addition of 0.76 per cent of sodium chloride.

A 1.5 per cent morphine hydrochloride solution, the addition of 0.69 per cent of sodium chloride.

A 2 per cent morphine hydrochloride solution, 0.62 per cent of sodium chloride.

A 3 per cent morphine hydrochloride solution, 0.48 per cent of sodium chloride.

A 1 per cent cocaine hydrochloride solution requires the addition of 0.74 per cent of sodium chloride.

A 6 per cent cocaine hydrochloride solution does not require any addition of sodium chloride.

A 1 per cent procaine hydrochloride solution requires the addition of 0.69 per cent of sodium chloride.

A 2 per cent procaine hydrochloride solution, 0.51 per cent of sodium chloride.

A 1 per cent atropine sulphate solution requires the addition of 0.79 per cent of sodium chloride.

A 1 per cent emetine hydrochloride solution requires the addition of 0.82 per cent of sodium chloride.

A 3 per cent emetine hydrochloride solution, 0.68 per cent of sodium chloride.

A 5 per cent emetine hydrochloride solution, 0.45 per cent of sodium chloride.

81. Bartlett, Willard: Hypodermoclysis, abstr. J. A. M. A. 74:199 (Jan. 17) 1920.

Hypodermoclysis may be given more or less continuously by means of the visible dropper and screw clamp arrangement.

Subcutaneous Oil Injection.—Subcutaneous alimentation has thus far not been successful. It is true that 5 per cent dextrose solution may be injected in quantities of 500 cc. from two to four times daily. The 50 to 100 Gm. of sugar thus introduced would yield from 200 to 400 calories; but even this amount can usually not be introduced for more than two or three days, as the patients then refuse further injection on account of a sore feeling in the tissue repeatedly used for this purpose. Subcutaneous injections of olive oil were advocated by von Leube in 1895 as a means of nourishing a patient who for any reason is unable to take fat in the normal manner. As such injections are well borne, and very little fat is absorbed on inunction or rectal injection, it was hoped that this method might constitute an important adjunct to other forms of extrabuccal alimentation. Unfortunately, absorption from plain oil injected in absolute starvation is so very slow that it can be of no value in the nutritional emergencies in which it might seem desirable. H. Winternitz, in 1903, found that in such cases the absorption occurred at the rate of only from 1 to 3 Gm. daily.

The experiments of Mills [82] on starving and fed cats not only confirm these observations but also furnish the key to an understanding of the reason for the extremely slow absorption of injected oil in absolute starvation, and a promise for the ultimate solution of the problem of subcutaneous oil administration. In starvation, plain oil is not absorbed to any great extent because lipolytic ferment, along with other ferments, becomes progressively reduced as starvation increases. In well fed animals, absorption of oil is slow but much better than in the starved animal. Properly emulsified oil, on the other hand, is absorbed, even in the starved animal, sufficiently well to supply almost half of the required calories. As acacia emulsions were found unsatisfactory (necrosis even may be produced by them) Mills employed lecithin as the emulsifying agent, and suggests the employment of emulsions thus prepared in many diseases. He found that corn oil and cod liver oil produced intense and long-continued inflammation, while oil of lard, coconut oil, peanut, cottonseed, olive and sesame oil produced no irritation. Lard, butter-fat and human oils were also used. The author is under the impression that animal oils are more readily absorbed than vegetable oils.

Leon Binet [83] also points out the slow rate at which oil is absorbed. It may remain in situ for weeks and months, as can be shown by the persistence of spots of injected iodized oil, impenetrable to the roentgen rays. He finds that some animal oils are absorbed much more readily than vegetable oils. Injected oils spread out through the lymph spaces, reaching the interstices in the muscles, where they are divided into droplets, which may become almost encysted. The digestion of the oils seems to be the work of leukocytes, mononuclears chiefly, which, as Fiessinger has shown, are capable of secreting an active lipase. Volatile bodies, such as camphor, may be absorbed independently of the oil. Half of the injected camphor was absorbed in two hours, 75 per cent after five hours, and almost all the camphor after nine hours, while the olive oil remained in situ for months.

82. Mills, L. H.: The Utilization of Fats and Oils Given Subcutaneously, Arch. Int. Med. 7: 694 (May) 1911.
83. Binet, Leon, Paris Letter, J. A. M. A. 86: 49 (Jan. 2) 1926.

Nonvolatile oil soluble bodies injected in oil solution must, of course, be absorbed much more slowly. To what extent emulsification, as by lecithin, would aid such absorption does not seem to have thus far been determined.

In view of this slow absorption of oil, the suggestion of Miller [84] is of interest, to establish a local subcutaneous depot of epinephrine in oil for such clinical conditions as bronchial asthma, certain urticarial eruptions, and in certain types of pneumonia [and why not in Addison's disease?] to secure in this manner rather continuous epinephrinization by repeating the injection every eight to twelve hours. By the use of procaine in oil he has succeeded in maintaining local anesthesia for from ten to twelve hours.

The danger of injection abscesses from oil injections will have to be borne in mind. According to Budai,[85] such injection abscesses, which so often occur in infectious diseases with circulatory disturbance, such as grip, scarlet fever or typhoid, are the result of the pressure of oil on the undernourished tissue with its toxically injured capillaries. Intramuscular injection of oil would seem preferable to its subcutaneous administration, as the muscle has a much better blood supply.

(To be continued)

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION. W. A. PUCKNER, SECRETARY.

PITUITARY LIQUID (SURGICAL)-ARMOUR. — A slightly acid aqueous solution containing the water-soluble principle or principles of the fresh posterior lobe of the pituitary body of cattle, free from preservative. It is standardized by the method of the U. S. Pharmacopeia to have twice the strength of solution of pituitary, U. S. P. X.

Actions and Uses.—See Pituitary Gland, New and Nonofficial Remedies, 1926, p. 281.

Dosage.—See Solution of Pituitary, New and Nonofficial Remedies, 1926, p. 283.

Manufactured by Armour & Company, Chicago. No U. S. patent or trademark.

Ampules Pituitary Liquid (Surgical)-Armour 1 cc.

TETBROTHALEIN SODIUM (Formerly called Tetrabromophthalein Sodium; see New and Nonofficial Remedies, 1926, p. 162).

Tetrabromophenolphthalein Sodium Salt-Eastman.—A brand of tetbrothalein sodium-N. N. R.

Manufactured by the Eastman Kodak Company, Rochester, N. Y. No U. S. patent or trademark.

TETIOTHALEIN SODIUM (Formerly called Tetraiodophthalein Sodium; see New and Nonofficial Remedies, 1926, p. 163).

Tetraiodophenolphthalein Sodium Salt-Eastman.—A brand of tetiothalein sodium-N. N. R.

Manufactured by the Eastman Kodak Company, Rochester, N. Y. No U. S. patent or trademark.

84. Miller, H. R.: The Use of Drugs in Oil, J. A. M. A. 74: 1270 (May 1) 1920.
85. Budai, Stefan: Therapie d. Gegenw., 1922, No. 9.

Gas Masks and Hard Work.—A man wearing a gas mask can work hard for only about half an hour, when, on account of the extra exertion caused by the resistance to breathing, he must stop to rest or greatly reduce his exertion.—Tests and Characteristics of Dust Respirators, U. S. Department of Commerce.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, JULY 24, 1926

ASTHMA IN CHILDREN

Asthma is not difficult to diagnose, but effective treatment has for the most part remained somewhat problematic and haphazard. An advance in our knowledge of the disorder has resulted from the recognition that a considerable number of persons subject to a recurring dyspnea that is more marked in expiration associated with wheezing are hypersensitive to protein. The importance of the allergic factors no longer requires debate; in fact, there are clinicians who would restrict the term asthma to patients in whom evidences of protein sensitization can be elicited. Peshkin [1] has recently warned against taking any narrow view of the possible genesis of asthma. He points out that the various etiologic protein sensitizations are merely exciting factors and not the basic cause of asthma. What disturbed mechanism is primarily responsible for the varied manifestations of allergy in the human being is still unknown. Until such a mechanism is brought to light, we must, as Peshkin remarks, content ourselves with the present method of eliciting the various exciting factors in asthma. Therefore, to fix the responsibility in asthma requires a complete series of protein skin tests accurately performed and properly interpreted, together with a thorough history, physical examination and careful study of the case, extending over a considerable period.

A careful study [1] of 100 consecutive cases of asthma, each studied over a period of many months in the Children's Asthma Clinic of Mount Sinai Hospital, New York, has demonstrated that about four fifths of these youthful patients were protein sensitive in specifically demonstrable ways. The most common age of onset of asthma in the protein sensitive group was 2 years. Onset of asthma after 10 years did not occur. The most common onset in the nonprotein sensitive group was around 1 year (27 per cent), and after that it was fairly evenly distributed up to the ninth year, after which no cases occurred. It might be argued that many children are protein sensitive regardless of the occurrence of asthma in them; but the proportion of such children is at most small by comparison with the figures of Peshkin.

Nearly all the protein sensitive asthmatic patients reacted to "inhalants," the most common of which, in the order of their frequency, were rabbit hair, house dust, duck feathers, horse dander, cat hair and ragweed. Sensitization to rabbit hair occurred in 49 per cent of all asthmatic children, or in 62 per cent of the protein sensitive group. This is a matter of great practical importance in view of the extensive use of rabbit hair in pillows and mattresses. However, articles of apparel trimmed with rabbit hair, and felt hats, fur coats and toy animals are additional sources of exposure.[2]

It is significant that intolerance to drugs was not observed in Peshkin's cases of asthma. For a long time, interest in protein sensitization was centered in the food proteins as sources of the harm. According to these studies, the rôle of food in the production of allergic symptoms in children is extremely variable, and food does not attain the importance of the inhalant proteins. The influx of new preparations of "diagnostic proteins" in the field of pharmaceutic supplies carries with it the danger of distribution of poor products. Unsatisfactory results are likely to follow the use of nonpotent diagnostic materials that have not been properly tested. As Peshkin notes, the clinical significance of the protein skin reactions is far from a closed chapter. After all, they are of value only when they lead to direct clinical results. There are many workers, he adds, who consider the present status of the question eminently satisfactory, and almost a complete science. Then, again, there are far too many others, clinicians of repute, who still view the entire subject with skepticism. The existence of too many discrepancies in the interpretation of the reactions has led to more or less indifferent results, and is largely responsible for the controversial situation.

CLASSIFICATION OF MERCURIALS

Elsewhere in this issue appears the report of an investigation on "A Method of Laboratory Evaluation and Classification of Mercurials," conducted in the Chemical Laboratory of the Association by J. B. Peterson.[3] This work at first glance appears to concern a purely academic problem; in fact, however, it helps to throw light on questions of clinical interest. An increasing number of mercury compounds have been introduced into medicine with the hope that they might be especially adapted to some particular purpose. One of the most important factors that govern these

1. Peshkin, M. M.: Asthma in Children, I, Etiology, Am. J. Dis. Child. 31: 763 (June) 1926.

2. Sensitivity to rabbit hairs is discussed by Vander Veer, A., Jr.: The Present Status of the Treatment of Hay-Fever and Asthma, Am. J. M. Sc. 164: 97 (July) 1922. Ratner, Bret: Rabbit Hair Asthma in Children, M. Clin. N. Amer. 5: 1129 (Jan.) 1922; Am. J. Dis. Child. 24: 346 (Oct.) 1922.

3. Peterson, J. B.: Mercurials: A Proposed Method of Laboratory Evaluation and Classification, this issue, p. 223.

adaptations is the degree of their ionization, for this has an important bearing on their precipitant action on protein, and therefore their local irritant action. To a large extent and in most cases it also controls their antiseptic action. In other words, these important properties depend largely on the degree of ionization of the mercury; and if this could be conveniently determined, the local irritant and direct antiseptic actions could in general be foretold. Furthermore, if there were a conspicuous anomaly between the ionized mercury content of a solution and this antiseptic activity, it would mean that the potency must be due to some other cause than mercury ions—a matter that is also of clinical importance. Evidently the determination of the mercury ions in such solutions would be of real value. The problem is not a simple one. A rough idea may be gained from the degree of blackening of the solution by hydrogen sulphide, and by "poisoning" of the hydrogen electrodes, since these both depend on mercury ions; but it is difficult to make such comparisons quantitative.

Problems similar to those mentioned had existed in relation to the ionization of silver preparations, but Dreser [4] showed that the metallic ionization could be estimated conveniently by the toxic effects on yeast cultures. Pilcher and Sollmann [5] adapted this method in a remarkable manner to the classification of the silver protein compounds. The method in addition yielded data that helped to explain why these preparations are active,[6] and how active they are under conditions approaching clinical application.[7] The experiments also shed light on the keeping power of the solutions of the silver protein preparations.[8] The method is so simple that manufacturers of silver protein preparations readily adopted it as a reliable means of control work. Although in use only a relatively short time, its value was recognized by incorporation in the U. S. P. X as a test to classify mild (argyrol type) and strong (protargol type) silver protein preparations.

Encouraged by the researches of Sollmann and Pilcher, Peterson applied the same method to the series of mercury compounds, and found it equally applicable. The results are quite in harmony with the chemical and physical data, and with the clinical data, so far as they are known, with the advantage that the yeast method is more objective and more quantitative. According to these results, commonly used mercury compounds fall into four distinct classes from the standpoint of ionization. Expressing this simply in terms of "efficiency for equivalent of mercury," with mercuric chloride as unity, the first class comprises the relatively freely ionized mercuric salts mercuric bromide and chloride, mercuric potassium iodide, mercuric succinimide, sublamine and metaphen, decreasing in this order from 1.7 units to 0.36 unit; the correspondence of this sequence to the clinical effects—local, irritant and antiseptic—is evident. In the second class come the feebly ionizable compounds with correspondingly mild irritation. They include mercuric oxycyanide, cyanide and benzoate, and meroxyl, and range from 0.056 to 0.03 unit. The third group includes mercurosal and the mercury-fluorescein dyes mercurochrome and flumerin. These range from 0.02 to 0.01 unit; but the dye component appears to be responsible for a considerable part of the activity—fully a fifth, in the case of flumerin. This factor is perhaps too much overlooked. In the fourth class come afridol, which does not ionize enough, and mercuric salicylate, which does not dissolve sufficiently to affect the yeast sensibly. It is clear that the method has proved useful for classifying and grading the mercury compounds on the basis of their ionization, and so furnishes an objective measure of their local irritant, precipitant and antiseptic action. Inventors of such compounds may estimate these therapeutic actions in the test tube, before they apply and check them on patients. It will be interesting to see whether the method may prove equally efficient for approaching the other practical problems which it solved for the silver compounds in the hands of Pilcher and Sollmann; namely, the degree of interference of proteins and cells with the ionic mercury action, and the changes that the solutions undergo on keeping.

4. Dreser, H.: Ztschr. f. exper. Path. u. Therap. **19**: 3, 1917.
5. Pilcher, J. D., and Sollmann, Torald: J. Lab. & Clin. Med. **8**: 301 (Feb.) 1923.
6. Pilcher, J. D., and Sollmann, Torald: J. Lab. & Clin. Med. **10**: 38 (Oct.) 1924.
7. Pilcher, J. D., and Sollmann, Torald: J. Lab. & Clin. Med. **9**: 256 (Jan.) 1924.
8. Pilcher, J. D., and Sollmann, Torald: J. Lab. & Clin. Med. **10**: 103 (Nov.) 1924.

SUBCUTANEOUS FAT IN SCLEREMA

In mammals, adipose tissue forms the chief store of reserve fat, the latter sometimes making up nine tenths of the organic substance present. There are varied reasons why it is of interest to man. For many persons the cosmetic aspects governed by the location and extent of their adipose tissue are of foremost concern. Again, the fatty layers act as a warm blanket that may modify the heat regulation in the body, or the mere weight of a superabundance of fat may afford concern to those who are compelled to carry it. Whereas in some species the accumulation of fat represents a beneficent reserve of fuel for insurance against a day of need, this aspect of the subject rarely appeals to man, who today is rarely bereft of food supply for any prolonged period.

The composition of the adipose tissue fat varies even in the same animal. It is common knowledge that the fat which lies just under the skin tends to have a lower melting point than that found more internally. Recent reviewers [1] of the subject believe that there are grounds for attributing the well marked differences in the composition of adipose tissue fat to the fact that it is deposited in regions of different temperature. It is generally held that the cells of

1. Leathes, J. B., and Raper, H. S.: The Fats, London, Longmans, Green & Co., 1925.

adipose tissue do not synthesize from substances, such as protein or carbohydrate, the fat which they store up, but rather that they take up this fat from the blood stream. In what form it is taken up, whether as neutral fat, fatty acid or soap, is uncertain, but the process seems to be one that favors the storage at lower temperatures of the more unsaturated fats. It would be mere speculation, Leathes and Raper state, to suggest any physical or chemical cause for this phenomenon, but it appears to be an example of the process of adaptation which might well have such a basis.

In his recent study of human subcutaneous fat, Eckstein [2] of the University of Michigan brings added confirmation of the similarity between this fat and that of the blood and feces. The chemical resemblance of fecal fat to the blood lipoids has repeatedly been stressed of late, notably by Bloor of the University of Rochester. This has been made the basis for the contention that, for the most part, fecal fat represents an excretion from the organism itself rather than an evacuation of unabsorbed food fats.[3] All these newer views help to elucidate the pathology of adipose tissue that is seen in certain well defined human cases, notably scleromatous infants. Sclerema neonatorum is a rare but interesting condition characterized by the appearance of hard, well defined thickenings of the subcutaneous tissue. At one time it was assumed that the peculiar changes in the fat were attributable to an overabundance of cholesterol or its esters. Investigations in London by Channon and Harrison [4] seem to demonstrate that the subcutaneous fat in scleromatous infants has a higher melting point and a slightly lower iodine value than the corresponding values of the fat in infants of the same age. The raised melting point is believed to be due to the presence of an excess of glycerides of the higher fatty acids—probably of palmitic acid—which causes a slight decrease in the oleic acid content of the fat. Subcutaneous tissue in cases of sclerema contains an abnormal amount of cholesterol, calcium and phosphorus. The causes of these now well authenticated chemical perversions in subcutaneous fat deposition remain to be ascertained. In this connection it may be of interest to refer to the significant characteristics that Eckstein and Wile [5] have lately recorded for the outer layers of the skin. Cholesterol makes up on the average approximately one fifth of the total lipoids, whereas in the subcutaneous fat it amounts to only about one one-hundredth of that amount.[2] The pronounced difference between the lipoid make-up of the skin and that of the tissues immediately beneath it challenges attention.

2. Eckstein, H. C.: The Fatty Acids in the Subcutaneous Fat of Man, J. Biol. Chem. 64: 797 (July) 1925.
3. The Origin of Fecal Fat, Current Comment, J. A. M. A. 87: 176 (July 17) 1926.
4. Channon, H. J., and Harrison, G. A.: The Chemical Nature of the Subcutaneous Fat in the Normal and Sclerematous Infant, Biochem. J. 20: 84, 1926.
5. Eckstein, H. C., and Wile, U. J.: The Cholesterol Content of the Cutaneous Epithelium of Man, J. Biol. Chem. 67: 54 (Feb.) 1926.

Current Comment

THE PATHOGENESIS OF HYPERTENSION—A NEW THEORY

The immediate causes of arterial hypertension are still sufficiently uncertain to warrant a lively interest in any engaging new hypothesis. Studies on the pathogenesis of hypertension, carried out by Bordley and Baker [1] in the department of pathology of Johns Hopkins Hospital, have been stimulated by the demonstration of Anrep and Starling [2] of London that a reduction in the amount of blood reaching the part of the brain concerned with vasomotor control brings about a compensatory rise in the systemic arterial pressure. This was effected by the ingenious experiment of making the circulation through the brachiocephalic artery of an experimental animal independent of the rest of the blood supply of the body. The circulation through the medullary vascular centers could thus be controlled and made independent of changes in the heart or in the splanchnic vessels. A fall in the blood pressure in the brain produced immediate vasoconstriction in the rest of the animal. Bordley and Baker have found arteriosclerosis in the medulla oblongata without exception in man in cases with a history of hypertension, whereas the arterioles in this region were found unaltered when there was a record of normal blood pressure. The Baltimore pathologists, recognizing the current belief that arterial hypertension is accompanied by arteriosclerosis in at least some portion of the body, suggest that a localization of this process in the medulla oblongata may be the essential factor in the production of persistent high blood pressure. The possibility remains, of course, that the anatomic changes may be secondary to the hypertension. Bordley and Baker tentatively conclude that there is at least an association between persistent hypertension and arteriosclerosis of the vessels supplying the brain stem.

THE CURABILITY OF DIABETES

The discovery of insulin and the unmistakable clinical benefit that has attended its use have awakened the hope that a "cure" of the disease is at hand. For various reasons it is unfortunate that this impression has gained such widespread credence. Erroneous information about medical subjects invariably reacts badly on the work of a profession often consequently charged with errors for which it is not responsible and which it has never countenanced. Furthermore, there are many occasions on which a physician has been obliged to disillusion some unfortunate sufferer. One of the foremost American students of diabetes [3] frankly admits his unwillingness to regard any of his diabetic patients as "cured." He remarks that the term "arrested" instead of "cured" has found general

1. Bordley, J., and Baker, B. M.: A Consideration of Arteriosclerosis of the Cerebral Vessels and the Pathogenesis of Hypertension, Bull. Johns Hopkins Hosp. 38: 320 (April) 1926.
2. Anrep, G. V., and Starling, E. H.: Central and Reflex Regulation on the Circulation, Proc. Roy. Soc. London, B 97: 463, 1925.
3. Joslin, E. P.: The Treatment of Diabetes Mellitus, Philadelphia, Lea & Febiger, 1923.

acceptance in the literature of tuberculosis, and it is equally appropriate in diabetes. Some clinicians of wide experience believe that a diabetic patient may recover; but a sugar-free urine and a normal blood sugar content are not the sole indexes of a cure; both should be normal for years. Those who believe that it is better for the present to take the conservative standpoint and be slow to report cured or even arrested cases will find support in the recent observations of Harrison[4] in London. He has directed his attention to the possibility of partial cure that might be ascribed to the action of insulin. His patients were placed on a constant daily intake of carbohydrate, protein, fat and calories, the dose of the hormone being adjusted to keep the blood sugar content within normal limits. There was no indication of even a partial remission of the disease as the result of observations lasting from eleven to eighteen months in a few selected cases. All needed as much or more insulin at the end of the study as at its beginning. Barely four years has elapsed since the use of insulin came into general vogue in clinical practice. It has revolutionized the treatment of diabetes in more ways than one. It has increased rather than diminished the need for careful regard to the diet, even though the restrictions of the latter are no longer as rigid as formerly. The time has not yet arrived, however, to foster the belief of a curative control over one of the most perplexing of human chronic diseases.

SPECULATIONS ABOUT PERNICIOUS ANEMIA

Pernicious anemia is one of the diseases that seem to awaken perennial interest. The malady is by no means rare; the question of its causation is apparently far from solution, despite the multiplicity of theories that have been advanced; and there is what a distinguished clinician has described as the ever more disheartening results of treatment. Such a recital is in itself sufficient to excite the attention of keen students; it also serves alike as a sufficient apology for new attempts at interpretation and as a warning of the necessity of the utmost circumspection in the presentation of a new hypothesis. Heredity, infection, intestinal atrophy, defective absorption of nutriment, improper "assimilation"—these and other alleged causes of pernicious anemia have had a hearing and been for the most part abandoned as inadequate to explain all the known facts. The Danish clinician Knud Faber,[5] in an address before the American Congress of Internal Medicine at Detroit in February, reverted to the view that pernicious anemia has its origin in intestinal intoxication. Pointing to the association of the disease with many cases of achylia gastrica, he argued that this condition gives rise to various possibilities of the formation and absorption of hemolytic substances in the bowel, owing to the transformation of the normal intestinal flora through lack of the usual gastric germicidal processes. Either the bacteria themselves or toxins may consequently be taken into the blood stream. In other words, achylia gastrica distinctly favors intestinal intoxication processes. When pernicious anemia develops in the course of acute sepsis, the production of the "poison" may be looked for elsewhere than in the intestine. Of course, such speculations bring us little nearer to the nature of the hypothetic hemolytic agent so generally postulated. The conception advanced gains, we think, if to it is added the suggested possibility that with protracted hemolysis from any cause the hematogenic organs give out. Wells has ventured the further suggestion that this exhaustion may perhaps be hastened by the influence of the toxic substances in the blood, hematogenesis then becoming insufficient to replace the lost corpuscles.

4. Harrison, G. A.: Can Insulin Produce Even a Partial Cure in Human Diabetes? Quart. J. Med. **19**: 223 (Jan.) 1926.
5. Faber, Knud: The Intestinal Origin of Pernicious Anemia, Ann. Clin. Med. **4**: 788 (April) 1926.

TEMPERATURE AND PROTEIN INTAKE

The "heated term," as the summer season in the United States is sometimes designated, is likely to awaken reflections on the endogenous sources of heat in the body as well as regarding the environmental sources of discomfort revealed alike by the thermometer and by our sensations of warmth. It is commonly stated that protein has one property out of all proportion to that possessed by other foodstuffs: it largely increases the production of heat in the body.[1] In commenting on this some time ago,[2] we referred to observations made in New Orleans by Denis and Borgstrom[3] on the protein metabolism of Southern medical students, in contrast with their colleagues in colder New England. The daily urinary nitrogen output for the latter was estimated at from 15 to 18 Gm. daily, in contrast to 10.6 Gm. observed for the New Orleans students. The suggestion was made by Denis and Borgstrom that such a lowered protein intake may be due to the warm climate in which these subjects were living, as it was noted that the average nitrogen of the urines collected during the cold weather of February and March was noticeably higher than in those collected during April and July. The results obtained were assumed to furnish evidence in favor of the view that increase of temperature is accompanied by a decrease in protein intake, and that, apart from the variations due to seasonal changes, the inhabitants of the semitropical portions of this country probably consume an amount of protein considerably below the quantity reported as the average intake for the nation. Exception has recently been taken by Youngburg and Finch[4] of the University of Buffalo Department of Medicine to the alleged facts and the consequent conclusions.[5] In their observations on persons in New England and western New York, the average total daily urinary nitrogen output for a 70 Kg. man was 11.3 Gm., a figure not at variance with the Southern data. According to the Buffalo biochemists, seasonal variations in temperature in temperate zones are not great enough to influence the level of protein metabolism in man; it is the same in summer

1. Lusk, Graham: The Fundamental Basis of Nutrition, New Haven, Yale University Press, 1923.
2. Temperature and Protein Intake, editorial, J. A. M. A. **83**: 1432 (Nov. 1) 1924.
3. Denis, W., and Borgstrom, P.: A Study of the Effect of Temperature on Protein Intake, J. Biol. Chem. **61**: 109 (Aug.) 1924.
4. Youngburg, G. E., and Finch, M. W.: The Effect of Temperature on Metabolism, Particularly That of Protein, J. Biol. Chem. **68**: 335 (May) 1926.
5. The literature is reviewed by Greenwald, I.: A Normal Diet, in Barker, L. F.: Endocrinology and Metabolism, New York, **3**: 385, 1922.

as in winter. The difference in protein metabolism between inhabitants of temperate zones and of semitropical zones is small at most. Variations in protein intake are probably far more dependent on factors other than temperature changes in the environment; at any rate, the data at present available are still too scanty to justify pragmatic conclusions of adaptation.

Association News

THE WASHINGTON SESSION

Hotel Reservations

Dr. John Allan Talbott, 1621 Connecticut Avenue N.W., Washington, D. C., is the chairman of the Committee on Hotels of the Local Committee of Arrangements for the 1927 Annual Session, to be held in Washington, D. C., May 16-20. Reservations for rooms are already being made. Dr. Talbott will be glad to do what he can to help members and Fellows of the Association to secure satisfactory hotel accommodations for the time of the session.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ARIZONA

Polansky and "Dr." Swank.—The Pima County Medical Society recently undertook an investigation of two tuberculosis "cures" which were being exploited in that county, one by a man named Polansky, the other by "Dr." W. A. Swank, a veterinarian. When Polansky's case came up in the superior court, he agreed, says *Southwestern Medicine*, to leave the state immediately and not to attempt to practice medicine in Arizona again. "Dr." Swank forfeited his bond and left the community.

COLORADO

Personal.—Dr. Bertrand B. Jaffa has been appointed assistant superintendent of the Denver General Hospital, succeeding Dr. Ethel D. Humphrys, resigned.——Dr. Henry Sewall, emeritus professor of medicine, University of Colorado School of Medicine, Denver, received the honorary degree of doctor of science, recently, from Wesleyan University.

Community Health Conference.—Under the auspices of the University of Colorado Extension Division, the state board of health, the state tuberculosis association, the state dental association and other organizations, a community health conference was held at Alamosa, July 12; children under 7 years of age were given physical examinations on request of the parents, and lectures were given by Dr. Gerrit Heusinkveld on "Prenatal Influences," and by Dr. Franklin G. Ebaugh on "Mental Hygiene and Habit Training."

CONNECTICUT

Health at New Haven.—Telegraphic reports to the department of commerce from sixty-five cities with a total population of about 29,000,000 for the week ending May 29 indicate that the highest mortality rate (23.2) was for New Haven, and that the rate for the group of cities was 12.7. The mortality rate for New Haven for the corresponding period last year was 7.3, and, for the group of cities, 12.4.

Tetanus in July.—During the last eight years there have been 131 cases of tetanus and 128 deaths in Connecticut. A summary prepared by the state department of health shows that more cases occurred in July than in any other month, and this is attributed to Fourth of July accidents. While the largest number of cases for any one year was reported in 1922, the decrease since then has been less than would be expected in view of the campaign for a sane Fourth of July. There were eighteen cases of tetanus in 1925; only five of them, however, occurred in July.

ILLINOIS

Society News.—Dr. Albert F. Storke has been elected president of the Oak Park Physicians Club to succeed Dr. Anna E. Blount; Dr. Hugh T. Patrick, Chicago, recently addressed the club on "The Expert Witness."——Dr. Frank P. Norbury, Jacksonville, addressed the Decatur Medical Society, recently, on "Epidemic Encephalitis."

Appointments at State University.—Frederick B. Noyes, D.D.S., professor and head of the department of orthodontia, has been appointed dean of the College of Dentistry of the University of Illinois to succeed Dr. Frederick B. Moorehead, resigned; Dr. Frederick W. Maroney, former director, department of health instruction of public schools, Atlantic City, N. J., has been appointed associate professor of physical education, and Edward A. Boyden, Ph.D., associate professor of anatomy.

Chicago

Hourly Nursing Service.—There has been established throughout the city a new type of nursing service to meet the demand for skilled care of the sick in homes where a nurse is not required full time. A nurse may now be engaged in Chicago by the hour between 8:30 a. m. and 10 p. m. at $2 for the first hour or fraction thereof, and $1 for the second hour or fraction thereof, the service being limited to three hours per visit. The Central Council for Nursing Education and the First District of the Illinois State Association of Graduate Nurses organized the service; calls should be made to the Chicago Nurses Club and Registry, 116 South Michigan Avenue, telephone, State 8542.

Chicago Medical Society.—In the annual report of the secretary, it appears that the Chicago Medical Society now has a membership of more than 4,000, and is the largest local medical society in the world. During the last year, the central society conducted twenty-five meetings, which were addressed by eighteen out-of-town guests in addition to members of the society. The council of the society held nine meetings, and the board of trustees, eight, during the year. A campaign was carried on in every branch of the society for new members; seventy-eight members were dropped during the year for nonpayment of dues, the smallest number in several years; twenty-six transfers were issued to other county societies, and forty-nine of the members died.

Postgraduate Clinics at County Hospital.—The first four weeks' course of summer clinics at Cook County Hospital, conducted under the auspices of the Chicago Medical Society, was officially opened, July 19, by Mr. Anton J. Cermak, president of the county board, who welcomed about 300 visiting physicians, among whom are ten women. The class in the wards was divided into groups of fifteen each; there followed a pathologic conference of the whole group in the amphitheater and a symposium Tuesday evening on goiter by Drs. Frederick Tice, Edward S. Blaine and Raymond W. McNealy, and on Friday evening a symposium on gastric and duodenal ulcer by Drs. William A. Brams and Karl A. Meyer; about sixty physicians on the staff of the hospital will assist in the instruction.

LOUISIANA

Dermatologists Organize.—The Louisiana Dermatological Society was organized, May 24, at a meeting at Touro Infirmary, New Orleans, with Dr. Henry E. Menage, New Orleans, president, and Dr. Thomas A. Maxwell, 1119 Union Indemnity Building, New Orleans, secretary. Any dermatologist in the state affiliated with his local medical society and the American Medical Association is eligible for membership.

University News.—Tulane University will erect a downtown department of the medical school at Howard Street and Tulane Avenue, adjoining Charity Hospital, which will be known as the Hutchinson Memorial, with which the new clinic will closely cooperate. Although no definite plans for the building have been made, the site has been purchased and construction will begin as soon as sufficient funds are available. Mr. A. C. Hutchinson gave the university an endowment of about $780,000 in memory of his wife to promote medical science.

MARYLAND

Hospital News.—The new administration building of the Eastern Shore State Hospital, Cambridge, was dedicated, June 18; Dr. Arthur P. Herring, Baltimore, was chairman at the ceremonies; the speakers included Governor Ritchie, former Governor Harrington and Dr. Hugh H. Young.

Cancer Mass Meeting.—The state society for the control of cancer has requested leading members of the medical profession to help arrange a mass meeting in Baltimore in September to acquaint the public with information about cancer. There will be a cancer clinic also, and several British cancer authorities, as well as others from this country, will be invited. Dr. Joseph C. Bloodgood, Baltimore, is chairman of the state cancer committee.

Personal.—Dr. Dean Lewis, professor of surgery, Johns Hopkins University Medical School, Baltimore, received the honorary degree of doctor of science at the recent commencement of the University of Wisconsin, Madison.——Dr. William H. Wilmer, director, Wilmer Institute for Diseases of the Eye, Johns Hopkins Hospital, received the honorary degree of doctor of science, recently, from Princeton University.——Dr. George H. Steuart, Relay, has resigned from the staff of the Relay Sanatorium, and will spend the summer at his summer home at Ottoman, Va.——A bust of Dr. Hugh H. Young of Johns Hopkins University was presented to the University of Virginia Medical School at the recent annual alumni meeting.

MASSACHUSETTS

Society News.—The Hampshire District Medical Society held its June meeting at the country home of Dr. Herbert B. Perry, Northampton; Dr. Dudley Carleton, Springfield, gave an address on "Traumatic Shoulders, Negative to Roentgen Ray."

Memorial Library.—At the recent meeting of the Harvard University Medical School Alumni Association, a memorial room to be used as a library was presented to the medical school by the widow and friends of Prof. Harold C. Ernst, the first professor of bacteriology at the medical school. Dr. Elliott P. Joslin officially presented the library, which was accepted by the dean, Dr. David L. Edsall.

Personal.—Harvard University conferred the degree of doctor of science recently on Dr. William L. Richardson, formerly dean of the faculty of medicine, and the degree of doctor of laws on Dr. George G. Sears.——Dr. Alice Hamilton, assistant professor of industrial medicine, Harvard University Medical School, Boston, received the honorary degree of doctor of science, recently, from Mount Holyoke College.

Harvard Medical Expedition to Africa.—Dr. Richard P. Strong, professor of tropical medicine, Harvard University Medical School, and about seven assistants sailed for London and Brussels, where they will complete their equipment and arrangements for an expedition to Africa to make a medical survey, studying particularly (1) nonmalarial splenomegaly; (2) lymph gland enlargement, and (3) the action of a new remedy for trypanosomiasis. The party will go to Liberia first; from there up the Congo to Lake Tanganyika, and from there to Nairobi and then to Mombasa. About a year will be allowed for the trip, which is financed from the funds of the department of tropical medicine of Harvard University Medical School and by aid from friends. A cablegram, July 9, stated that the expedition had arrived at Monrovia, and was ready to proceed with its work.

MICHIGAN

Disposition of Typhoid Carrier.—The state board of health has arranged for a home and has agreed to pay the board of an aged typhoid carrier on a farm near Laingsburg, where all members of the family have had typhoid. An investigation of twenty-three cases of typhoid fever occurring in this community in recent years is said to have shown that the typhoid carrier had worked on each farm where cases appeared before or during the time of the outbreaks; laboratory examinations demonstrated that he is a typhoid carrier.

Society News.—The Jackson and the Washtenaw County medical societies held their annual outing, June 24, at the Sylvan Estates Golf Club between Grass Lake and Chelsea.——The Michigan State Medical Society recently held postgraduate conferences at Jackson, Fremont and Sheboygan, the attendance being eighty, seventy-five and twenty-eight, respectively; 75 per cent of those attending the Sheboygan conference traveled at least 150 miles to be present. The speakers at these conferences gave one or two days of their time, and were largely responsible for the successes.——The Alpena County Medical Society were recently guests of the Chippewa-Mackinac Society at Sault Ste. Marie; among others, Dr. John W. Purdy, Long Rapids, spoke on "Examination of the Chest."——Dr. William M. LeFevre, Muskegon, addressed the Berrien County Medical Society at Niles on "Surgical Emergencies of Diabetes."——The Eaton County Medical Society was addressed recently by Drs. Leo G. Christian and William E. McNamara of Lansing on "Medical and Surgical Aspects of Goiter."——At a joint meeting of the St. Joseph, Branch and Hillsdale county medical societies, June 16, Dr. Udo J. Wile of the University of Michigan Medical School spoke on "Peculiarities and Treatment of Syphilis."——Dr. James H. Dempster has been elected president of the Wayne County Medical Society, Detroit; Dr. Milton A. Darling, vice president, and Dr. Richard M. McKean, secretary.

MINNESOTA

State Medical Election.—At the meeting of the Minnesota State Medical Society Association, St. Paul, May 17-19, Dr. William F. Braasch, Rochester, was elected president; Dr. Samuel H. Boyer, Duluth, Dr. Herbert B. Aitkens, Le Sueur Center, and Dr. Frank D. Gray, Marshall, vice presidents; Dr. Edward A. Meyerding, St. Paul, secretary, and Dr. Earle R. Hare, Minneapolis, treasurer. The next annual meeting will be in Duluth.

County Society Demonstration.—The Hennepin County Medical Society, cooperating with the city health department, has inaugurated a campaign to immunize the children of Minneapolis between 1 and 16 years of age against diphtheria and scarlet fever. Four clinics have been established in the city which operate from 9 until 11 o'clock Tuesday mornings; as soon as required, additional mornings will be used for this work. The county society, through a special committee, directs the arrangements, procedure and personnel, and the physicians give their time without charge. The board of education and two settlement houses have lent rooms for the clinics; the division of public health supplies the material and the nurses. Only children of parents who are unable to pay for this service by family physicians are expected to avail themselves of the service. This is the first attempt to establish free clinics of this kind in Minneapolis and the first public group demonstration of preventive medicine undertaken by the medical society.

MISSISSIPPI

Hospital News.—The Kings Daughters recently laid the cornerstone of a new $250,000 hospital at Greenville.—The new Chamberlain-Rice Hospital at Natchez was recently opened.——A new Methodist Hospital is now under construction at Hattiesburg.

Society News.—Dr. Theophilus E. Ross, Hattiesburg, president of the state medical association, addressed the Northeast Mississippi Thirteen Counties Medical Association at Houston, June 15; Dr. J. Rice Williams was toastmaster at the banquet following the meeting.——Roentgenologists of the state held a meeting, recently, and appointed a committee to draw up a constitution for a permanent organization; they meet again during the annual meeting of the state medical association.

State Board Items.—Dr. Hardie R. Hays, Jackson, has been engaged by the state board of health to conduct epidemiologic investigations.——The state board resumed, July 1, the manufacturing and free distribution of antirabic serum to all citizens of the state; the board is manufacturing and distributing free to physicians and midwives 1 per cent silver nitrate ampules.——The state board of health will have an exhibit on the train which will begin a tour of the northern and eastern parts of the state, August 17; this will be called the "Know Mississippi Better" train.——Dr. James T. Googe, Booneville, has been placed in charge of the new Clarke County health unit.

MONTANA

Personal.—Dr. Albert F. Longeway, Great Falls, has been elected president of the Great Northern Railway Surgeons' Association.

Hospital News.—The department of the interior has completed plans for enlarging the hospital for Indians on the Fort Peck reservation from twelve beds to forty-four beds. The total number of Indians on the Fort Peck reservation is 2,273.

Research on Spotted Fever.—During the 1926 spotted fever season in Montana, about 625 persons were vaccinated against the disease with the Spencer-Parker vaccine. The results at present are favorable, the state board of health says, but it will take more time to prove the value of the vaccine. No person who had received the full number of vaccinations developed spotted fever this season, although two mild cases

occurred shortly after the first dose had been given. Ten persons died among twenty-five unvaccinated patients in the state, making a mortality rate of 40 per cent, which is higher than usual. Experiments are in progress on an island off the coast of Massachusetts with a view of destroying ticks there by means of the introduction of a tick parasite; a Montana entomologist has been sent there to observe the experiments, and, should they be successful, these parasites will be introduced into Montana.

NEW JERSEY

Examiners Appointed.—The governor has announced the appointment of the following members of the state board of medical examiners: Dr. Leo V. Becker, Paterson, to succeed Dr. Alexander MacAlister, Camden; Dr. Arcangelo Liva, Rutherford, to succeed Dr. Davis P. Borden, Paterson, and Dr. Earl S. Halinger, Camden, to succeed Dr. Joseph H. Bryan, Asbury Park.

State Society Adopts Group Life Insurance.—The Medical Society of New Jersey, at its annual meeting, Atlantic City, June 10, adopted a plan of group life, health and accident insurance which had been developed by the Essex County Medical Society. To be effective, 75 per cent of the state society's members must subscribe, but any member may apply for either the life insurance or the accident and health insurance or both. The Prudential Insurance Company of America will, through the state society, issue a $5,000 life policy without a medical examination for an annual flat premium of $102, regardless of the age of the member. The rate is based on the actual present age of the members and will be determined each year by the average existing age. The $5,000 accident and health policy is issued by the Commercial Casualty Insurance Company of Newark, and is payable for accidental loss of life, eyes, hands or feet. There is a weekly accident indemnity of $50 for fifty-two weeks for complete disability, and of $25 for twenty-six weeks if an injury prevents the insured from performing important duties pertaining to his occupation. The annual premium rate for this is $70, and no medical examination is required.

NEW YORK

University News.—Syracuse University recently appointed the following physicians as associate professors of pediatrics in the medical school: George M. Retan, Abraham C. Silverman, Brewster C. Doust, and Arthur P. Foreman. Dr. Henry W. Schoeneck, also of the Syracuse department of health, was appointed professor of obstetrics.

Health in State Last Year.—The state department of health publishes an interesting summary about health during 1925. The mortality rate was 12.7 per thousand of population for the state as a whole, and 12.2 for New York City. The birth rate was 20.6 per thousand of population, the lowest ever recorded, and the infant mortality rate (68 per thousand live births) was also the lowest in the history of the state. The infant mortality rate in New York City was lower than for the rest of the state (65 per thousand live births). There has been a continual decline in the birth rate in New York since 1914, when it was 24.6, the result largely, it is said, of the decline in immigration. The death rate from puerperal septicemia was 10.2 in New York City, and 21.1 for the rest of the state. In the rural sections (less than 10,000 population) the rate was 9.9, while in the urban sections, exclusive of New York City, it was 25.6. In contrasting the causes of deaths last year to those of the year 1900, the health commissioner says that 21 per cent of the deaths were due to heart disease, whereas twenty-five years ago only 7.7 per cent were due to heart disease. Tuberculosis last year caused 7.1 per cent of the deaths in the state, and in 1900 it caused 12 per cent. Acute respiratory diseases in 1925 caused 11 per cent of the deaths, and in 1900 caused 16 per cent of all deaths. Increases in mortality rates have occurred in these twenty-five years from heart disease, cancer, diabetes and diseases of the arteries, and decreased mortality rates have come about in that period in gastro-intestinal diseases in children, diphtheria, typhoid fever and scarlet fever.

New York City

University News.—New York University is to open a campaign for $73,00,000 in celebration of its centennial in 1931. The funds are for additional land, buildings and an endowment, and $3,000,000 will be used for the medical and dental colleges.

High School Medical Society.—A medical society, composed of fourth year boys who intend to study medicine, has been organized at the Thomas Jefferson High School, New York. The boys have received special instruction in hygiene and first aid, and will be taught to assist in first aid in the medical office of the school. The club, according to the *Medical Journal and Record*, will be responsible for first aid at athletic meets, and a condition of membership in the club is a grade of not less than 80 per cent in first year biology.

Personal.—Winthrop J. V. Osterhout, Ph.D., of the Rockefeller Institute for Medical Research, received the honorary degree of doctor of science at the recent commencement of Brown University.——Dr. Peyton Rous of the Rockefeller Institute sailed, June 26, for Cambridge University, England, where he will spend a year in study.——Dr. Aaron Leifer has been appointed an instructor in medicine at the University and Bellevue Hospital Medical College of the New York University.——Dr. Josephine B. Neal received the honorary degree of doctor of science from Bates College, June 21.——Dr. Henry Beeuwkes, formerly of the U. S. Army Medical Corps, is now in charge of the yellow fever work of the International Health Board in Nigeria, West Africa.——Dr. Samuel J. Kopetzky gave a series of lectures the week of July 19, at Denver, under the auspices of the Colorado Oto-Laryngological Society.——Dr. Philip J. Trentzsch has been appointed psychiatrist to the Culver Military Academy, Culver, Ind., which is said to be the first secondary school in the country to have on its staff a full-time psychiatrist.

OKLAHOMA

Society News.—The Woods County Medical Society held a skin and cancer clinic at the city hall, Oklahoma City, recently, which was in charge of Dr. Everett S. Lain. In the afternoon scientific papers were presented, and in the evening there was a banquet and an illustrated lecture on cancer.

Test for Registration Area.—The U. S. Census Bureau is conducting a check of the registration of births and deaths in Oklahoma, to determine whether the state is qualified to become a part of the registration area of the United States. The requirement is that a state must have on record at least 90 per cent of its births and deaths, and the state health officer has made an urgent appeal showing the value of reliable vital statistics.

Prize Health Play.—The National Tuberculosis Association awarded the first prize in its health play-writing contest to the Pawhuska High School, Pawhuska, which submitted an Indian play, "Nelagony." Pawhuska is in the Osage Indian country. Nelagony is an Indian word meaning "good water." The state health officer plans to present the play in different parts of the state to stimulate interest in typhoid immunization. Several Osage Indians assist in the production.

PENNSYLVANIA

Personal.—Dr. Henry C. Lawton has been elected president of the newly formed Public Health Association of Cumberland County.——Dr. Horace V. Pike, Danville, received the honorary degree of doctor of science, June 9, from Susquehanna University.

Hospital News.—Reading Hospital, Reading, recently put into effect a flat rate for maternity service of $50 for two weeks in a two bed room, including all hospital fees, except that of the attending physician, and a flat rate of $40 in the wards.——The ten day campaign of the Memorial Hospital, Roxborough, resulted in the collection of about $205,000.——The Columbia Hospital, Columbia, dedicated its new $100,000 annex, May 30, which was financed by the citizens of that city and vicinity.

Society News.—The Anti-Tuberculosis Society of Schuylkill County conducted a chest and heart clinic in Pine Grove, June 11.——Delaware County Tuberculosis Association conducted clinics at sixteen different centers during the last winter for the examination of tuberculosis suspects, making 345 examinations; each person examined was given a written report, and when possible, was recommended to his family physician to have the corrections made; during the summer, nurses of the association are making follow-up visits.

Protection of Health of Tourists.—The state department of health is supervising, in cooperation with the Keystone Auto Club, the sanitation of twelve large tourists' camps within a radius of 25 miles from Philadelphia, which have been established for tourists who visit the sesquicentennial exposition. These camps have the approval of the department of health; their sanitary condition is satisfactory, and the

bureau of communicable diseases investigates any suspicion that might indicate an outbreak of contagion. The state health department employs extra help, also, to investigate the hundreds of "mushroom camps" which are springing up in the eastern part of Pennsylvania; its field laboratories are examining water supplies along the main highways, and marking approved sources of water with a sign in the state colors carrying the legend, "Safe Drinking Water Here." The state health commissioner urges that tourists cooperate with the department and avoid all springs, wells and pumps along the highways which do not carry this sign of approval.

Philadelphia

Hospital News. — The Luzerne County commissioners recently held a public hearing on the question of building a county tuberculosis hospital; no one appeared to oppose the new institution. Some years ago the county purchased a 90 acre farm near Drums as a site for the hospital.

Health Service for Small Plants.—The Health Council of Philadelphia is establishing two more units of 1,000 employees each, representing a number of the relatively smaller industrial plants, in order to provide them a health service similar to that maintained by the larger establishments. Dr. Glenn S. Everts, Cincinnati, will have charge of the new units. The health council for two years has conducted two such units, serving about 2,000 workers, with Dr. James W. McConnell in charge. The council does not expect to conduct more than the four units, as they are considered sufficient to demonstrate how smaller plants may cooperate to obtain an efficient health service for their employees. Each plant is given three hours of medical service a week for each 100 employees, accident service is furnished, new employees are examined, a physical examination is given each employee once a year, and clinics are held in each plant. After the units have been well established, it is expected that the plants will then carry on this work under their own administration.

TENNESSEE

Society News.—Dr. Walter S. Lawrence will address the Memphis and Shelby County Medical Society, August 3, on "Physiotherapy in the Treatment of Diseases," and Dr. William S. Anderson on "Radium Therapy in the Treatment of Cancer."——Dr. Herbert Acuff, Knoxville, was elected president of the International Civitan Clubs at Philadelphia, June 30.

Health at Memphis.—Telegraphic returns to the department of commerce, for the week ending June 19, from sixty-six cities with a total population of 29,000,000, indicate that the highest mortality rate (18.9) was for Memphis, and that the rate for the group of cities was 11.9. The mortality rate for Memphis for the corresponding week last year was 24.5, and for the group of cities as a whole, 11.1.

Hospital News.—The new Eye, Ear, Nose and Throat Hospital, Memphis, is expected to open, July 31.——The Memphis General Hospital School of Nursing announces that the new Marcus Haase Nurses' Home will be ready to receive probationers entering training this fall; the new building was planned with the nurses' comfort in mind, provision having been made for recreation and other similar features.

WASHINGTON

Personal.—Dr. Herbert L. Moon, Seattle, was recently elected president of the North Pacific Pediatric Society at the annual meeting at Victoria, B. C.—— Dr. Harold B. Thompson, Seattle, was elected president of the Pacific Coast Roentgen Ray Society at the recent meeting in Victoria.

State Medical Election. — At the annual meeting of the Washington State Medical Association, Spokane, June 30, Dr. Harry G. Willard, Tacoma, was elected president; Drs. George C. Miller, Seattle, and William A. Taylor, Ellensburg, vice presidents, and Dr. Curtis H. Thomson, Seattle, secretary-treasurer. Drs. Frederick Epplen and Peter D. McCornack were elected delegates to the American Medical Association. The next annual meeting will be held in Tacoma.

Narcotic Question Goes to Supreme Court.—The collector of internal revenue at Tacoma will appeal to the U. S. Supreme Court for a ruling on the question as to whether he should register Washington osteopaths and accept the tax for the privilege of prescribing narcotics. Mr. Burns Poe, the collector, recently refused to accept this tax from osteopaths in view of the Beeler act, passed by the state legislature in 1923, and in view of a ruling of the state's attorney general that osteopaths are not entitled to possess narcotics under this law. A representative of the osteopaths brought mandamus proceedings in federal court, which held that the tax must be accepted.

Opinion About Pay Under Workmen's Compensation Act. ——The assistant attorney general of the state has handed down an opinion on a question proposed by the Washington Association of Hospitals as to whether physicians working under the state workmen's compensation act may be paid on a scale slightly lower than that allowed by the state, although hospitals would receive the higher allowance. The hospital association claimed, it is reported, that the difference between the two scales would be justified if the ambulance service given in these cases by the hospitals was taken into consideration. The attorney general held that the hospitals cannot be permitted to establish their own scale of pay for physicians in these cases, and that such procedure would violate the law in that the money drawn from the state treasury would not be used for the exact purpose for which it was issued.

Sanipractor Loses Appeal.—The State Supreme Court upheld the Thurston County Court, July 7, in sustaining the revocation of the license of Rose S. Hagen, a sanipractor of Puyallup, by the state department of licenses. The court also upheld the validity of the law regulating the practice of drugless healing. The court said, it is reported, that "the evidence to our minds very conclusively shows that the license was procured by the relator by the practice of the grossest fraud." Sanipractor Hagen's license is said to have been revoked on the ground that she represented herself to be a high school graduate and to have attended a recognized school for three sessions of thirty-six weeks each. The evidence showed, it is said, that she did not have a high school education and had received a diploma from the American University of Sanipractic in Seattle after three months' attendance.

Society News.—Dr. Stuart Pritchard, Battle Creek, Mich., addressed the King County Medical Society, Seattle, on "Differential Diagnosis of Pulmonary Tuberculosis," illustrated with lantern slides.—— Physicians of Skagit, Snohomish and Whatcom counties held their annual tricounty meeting, June 15, at Everett. Drs. Adolph O. Loe of the public health league, Lucien P. McCalla and J. W. Straight, and Dr. Sam L. Caldbick were the principal speakers, while Dr. Ottar A. Thomle, president of the Snohomish Medical Society, presided. Following a golf tournament won by the Whatcom physicians, a dinner was served at the Golf and Country Club in the evening.——The Klickitat-Skamania County Medical Society was organized in June at Goldendale with Dr. Charles R. Zener, White Salmon, president; Dr. John R. Barber, Stevenson, vice president, and Dr. Frank H. Collins, Goldendale, secretary-treasurer.

WISCONSIN

Personal.—Dr. William S. Miller, emeritus professor of anatomy, University of Wisconsin Medical School, Madison, received the honorary degree of doctor of science at the recent seventy-third annual commencement of the University of Wisconsin.—— Dr. Ralph M. Carter, Green Bay, was recently elected president of the Fox River Valley Medical Society.——Dr. Leander P. Stamm and Dr. Timothy J. Howard have been appointed district physicians of the Milwaukee County Dispensary, succeeding, respectively, the late Dr. John H. Rohr and Dr. Alexander J. Heller, resigned.

Society News.—Dr. Abraham Levinson, Chicago, addressed the Milwaukee Pediatric Society, June 9, at the Children's Hospital on "The Meningitides and Their Treatment," and Dr. Milton Tobias, Racine, on "A Review of Tuberculosis in Childhood."——Among others, Dr. John A. Diamond addressed the Barron-Polk-Washburn-Sawyer-Burnett County Medical Society, June 8, Frederic, on "Management of the Second Stage of Labor," and, following a banquet in the evening, Hon. A. P. Nelson gave an address on the history of medical advance.——Dr. L. Rock Sleyster, Wauwatosa, addressed the Eighth Councilor District Medical Society, June 24, at Kelly Lake, Oconto County, on "Nervous and Mental Disorders in General Practice," and following a dinner in the evening, Dr. Frederick J. Gaenslen, Milwaukee, gave an address on "Orthopedic Problems in General Practice"; Dr. Gaenslen conducted an orthopedic clinic under the auspices of the Winnebago County Medical Society, June 11, at Oshkosh, for the benefit of the crippled of that city.

GENERAL

Experimental Work on Poliomyelitis at Warm Springs,—Franklin D. Roosevelt, formerly assistant secretary of the navy, has purchased several hundred acres, including the spring, pool, hotel and cottages, at Warm Springs, Ga., for the purpose of carrying out experimental work in the after-treatment of poliomyelitis by exercise in warm water. Mr. Roosevelt himself became a victim of poliomyelitis in 1921. The work at Warm Springs will be partially philanthropic, the cost to the patient being the actual maintenance. For the present, about thirty patients will be cared for, the future number depending on the results obtained in this experimental group. The methods of treatment have been endorsed by the American Orthopedic Association, according to *Health News*, and Dr. Leroy W. Hubbard, orthopedic surgeon of the New York State Department of Health, has been granted leave of absence in order to direct this experimental work.

First Pan-American Health Conference.—The U. S. Public Health Service is arranging the program for the First Pan-American Health Conference, to be held in Washington, D. C., September 22-29. An official call for the conference has been made by Surg. Gen. Hugh S. Cumming of the U. S. Public Health Service, who is director of the Pan-American Sanitary Bureau. The conference is in a measure preparatory for the Eighth Pan-American Sanitary Conference, to be held at Lima, Peru, in 1927. Among the subjects for discussion will be malaria, hookworm, public health measures and administration. The conference will be held by directors of health in the various South and Central American countries. Among the suggestions already received for consideration at the conference are health administration and organization, pure water supplies, safeguarding milk, disposal of sewage, infant mortality, and registration of communicable diseases, births and deaths, yellow fever, bubonic plague and smallpox.

Foot-and-Mouth Disease Commission Returns.—The commission consisting of Dr. Peter K. Olitsky, Rockefeller Institute for Medical Research, Jacob Traum, D.V.S., University of California, and Dr. Harry W. Schoening, U. S. Bureau of Animal Industry, which was sent to Europe by the Department of Agriculture to study foot-and-mouth disease, has returned after more than a year abroad. The commission established itself at the Institut d'hygiène, Strasbourg, and later at the Laboratoire national de recherches, Alfort, France, where experimental studies were made on the etiology of foot-and-mouth disease from its physical, chemical and biologic aspects. European investigators and the officials gave fullest cooperation in this work, and studies were made of control measures and research work in England, Denmark, Sweden, Holland, Belgium, Switzerland, Austria, Hungary, Italy, France and Germany. The scientists returned when they did because the appropriation for the study lapsed, July 1 (THE JOURNAL, March 28, 1925, p. 994).

National Board of Medical Examiners.—Surg. Gen. Edward R. Stitt was elected president of the National Board of Medical Examiners at the recent annual meeting, and Dr. John S. Rodman, Philadelphia, secretary, reelected; Dr. Otto Folin, professor of biochemistry, Harvard University Medical School, and Dr. Louis B. Wilson, Mayo Foundation, Rochester, Minn., were elected to fill vacancies in the board, and elections of Dr. Joseph B. De Lee, Chicago, and Dr. Alexander S. Begg, dean, Boston University School of Medicine, who had been previously elected members, were confirmed. Dr. Horace D. Arnold, Boston, retired by expiration of his second term in accordance with a regulation of the board that members are not eligible for more than one reelection. The board decided to establish a loan fund for worthy candidates who may need assistance in connection with the payment of the fee for part III of the examination. These loans will be available to candidates who take this part of the examination after October 1; the fee for part III was increased $5 by the board, effective October 1. Examinations in parts I and II will be held, September 15-17, in all class A medical schools where there is a sufficient number of candidates who desire to take them.

National Institute of Health Proposed.—In the closing days of Congress, a bill was introduced by Senator Ransdell of Louisiana "To establish a National Institute of Health, to authorize increased appropriations for the hygienic laboratory, and to authorize the government to accept donations for use in ascertaining the cause, prevention and cure of disease affecting human beings." The proposed National Institute of Health would be under the jurisdiction of the Treasury Department and the administrative control of the Surgeon General, U. S. Public Health Service. The bill would authorize the acceptance of gifts to be used by the government for study and research in pure science, and cooperate with the hygienic laboratory; it would permit the surgeon general to establish fellowships in aid of individual scientists who have demonstrated marked ability in research and investigation. Scientists designated to receive fellowships would be appointed for duty in the institute; and the facilities of the institute would be available to health authorities of states and municipalities for instruction and investigation. The bill proposes an appropriation of $2,000,000 a year for five years for a new and enlarged hygienic laboratory, including equipment and for establishing fellowships to scientists in researches affecting public health. In presenting the bill to the Senate, Senator Ransdell said, in part:

> Every man, woman and child on earth is vitally interested in promoting public health, in the study of diseases and how to cure and prevent them. The question of health is of supreme importance. National vitality is more important to a country than its commerce, agriculture, industry, finance, foreign affairs, public works, or any legitimate function of government. It affects the welfare of the nation more than all other problems combined. . . . It is through the joint intensive efforts of chemist, physicist, physiologist, pharmacologist, pathologist, immunologist and physician that remedies must come for the above-named ailments and others to which the human race is susceptible. How many years must unfortunate sufferers from these and other diseases wait for relief? That is the big question which confronts us, and its solution is of supreme importance. In my opinion, it can best be solved by the enlargement of the hygienic laboratory of the U. S. Public Health Service into a great chemomedical research laboratory, fully equipped to cope with all disease that afflicts the human race, endowed by liberal appropriations and private subscriptions to carry on most effectively, and also to furnish at least fifty fellowships to trained scientists, paying a moderate salary—say, $5,000 a year—so as to give them opportunity for thorough investigation.

Revised Standards for Milk Products.—The Secretary of Agriculture has promulgated for the guidance of officials in the enforcement of the federal Food and Drugs Act revised standards for milk products adopted by the food standard committee, which is composed of three representatives each of the association of American dairy, food and drug officials, of the association of official agricultural chemists and of the department of agriculture. The revised standards and definitions are as follows:

1. Milk is the whole, fresh, clean, lacteal secretion obtained by the complete milking of one or more healthy cows, properly fed and kept, excluding that obtained within fifteen days before and five days after calving, or such longer period as may be necessary to render the milk practically colostrum free.
2. Pasteurized milk is milk that has been subjected to a temperature not lower than 145 degrees Fahrenheit for not less than thirty minutes, after which it is promptly cooled 50 degrees Fahrenheit, or lower.
3. Homogenized milk is milk that has been mechanically treated in such a manner as to alter its physical properties with particular reference to the condition and appearance of the fat globules.
4. Skimmed milk is milk from which substantially all the milk fat has been removed.
5. Buttermilk is the product that remains when fat is removed from milk or cream, sweet or sour, in the process of churning. It contains not less than 8.5 per cent of milk solids not fat.
6. Goat's milk, ewe's milk, etc., are the fresh, clean lacteal secretions, free from colostrum, obtained by the complete milking of healthy animals other than cows, properly fed and kept, and conform in name to the species of animal from which they are obtained.
7. Evaporated milk is the product resulting from the evaporation of a considerable portion of the water from milk, or from milk with adjustment, if necessary, of the ratio of fat to nonfat solids by the addition of or by the abstraction of cream. It contains not less than 7.8 per cent of milk fat, nor less than 25.5 per cent of total milk solids; provided, however, that the sum of the percentages of milk fat and total milk solids be not less than 33.7 per cent.
8. Sweetened condensed milk is the product resulting from the evaporation of a considerable portion of the water from the whole, fresh, clean lacteal secretion obtained by the complete milking of one or more healthy cows, properly fed and kept, excluding that obtained within fifteen days before and ten days after calving, to which sugar (sucrose) has been added. It contains not less than 28 per cent of total milk solids, and not less than 8 per cent of milk fat.
9. Evaporated skimmed milk is the product resulting from the evaporation of a considerable portion of the water from skimmed milk, and contains not less than 20 per cent of milk solids.
10. Sweetened condensed skimmed milk is the product resulting from the evaporation of a considerable portion of the water from skimmed milk to which sugar (sucrose) has been added. It contains not less than 24 per cent of milk solids.
11. Dried milk is the product resulting from the removal of water from milk, and contains not less than 26 per cent of milk fat, and not more than 5 per cent of moisture.
12. Dried skimmed milk is the product resulting from the removal of water from skimmed milk, and contains not more than 5 per cent of moisture.

CANADA

Personal.—Dr. Archibald W. Hunter, president, Vancouver Medical Association, resigned, July 1, as pathologist to the Vancouver General Hospital, and Dr. Harry H. Pitts, for several years in pathologic work in Dr. Crile's Clinic, Cleveland, will succeed Dr. A. W. Hunter as part-time pathologist, beginning August 1. Dr. Hunter will continue as consulting pathologist to the hospital.

Meeting of French-Speaking Physicians.—The ninth convention of French-speaking physicians of North America will be held in Montreal, September 21-24. Among the subjects for discussion will be surgery of gastroduodenal ulcers, significance of vertiginous conditions, prophylaxis of infantile syphilis, and the social prevention of tuberculosis. There will also be present leading men from South America, Belgium, Switzerland, Luxembourg, England and France. Dr. Romeo Boucher, Montreal, is secretary of the convention.

Society News.—Dr. Andrew A. Fletcher, Toronto, recently addressed the Oxford County Medical Society on "Diet and Insulin in the Treatment of Diabetes Mellitus."——Dr. Leonard A. C. Panton has been elected president of the Battleford District Medical Society.——Dr. Walter Ross Lane, Nanaimo, has been elected president of the Sixth District Medical Society.——At the annual meeting of the British Columbia Medical Association, Victoria, June 22, Dr. John H. MacDermot was elected president; Dr. Harold E. Ridewood, Victoria, president-elect, Dr. Wallace A. Wilson, Vancouver, vice president, and Dr. Theodore H. Lennie, Vancouver, secretary-treasurer.

Postgraduate Lectures.—The summer series of postgraduate lectures and demonstrations under the auspices of the Vancouver Medical Association will be given the week of September 13. There will be lectures morning and evening, and arrangements for clinical demonstrations are being made. The speakers will be: Dr. Aldred S. Warthin, professor of pathology and director of the pathologic laboratory, University of Michigan Medical School, Ann Arbor; Dr. George Gellhorn, professor of obstetrics and gynecology, St. Louis University School of Medicine; Dr. Carl A. Hedblom, professor of surgery, University of Illinois College of Medicine; Sir Henry Gauvain, orthopedic surgeon, London, England; Dr. George C. Hale, professor of medicine, University of Western Ontario Medical School, London, Ont.; Dr. Fraser B. Gurd, associate in surgery, McGill University Faculty of Medicine, and Dr. R. R. MacGregor, professor of pediatrics, Queen's University Faculty of Medicine, Kingston.

FOREIGN

Hospital for Japan.—The council of the Protestant Episcopal Church, at its recent session in Racine, Wis., voted to expend $900,000 of money already subscribed for the construction of the first units of the new St. Luke's Hospital at Tokyo, Japan.

New Director General of Army Medical Services.—Major Gen. Sir Matthew H. G. Fell has been appointed director general of the Army Medical Services of Great Britain, to succeed the late Sir William Leishman. Sir Matthew Fell was medical director for the Royal Air Force, 1918-1921, then inspector for the medical services of the army, and later deputy director of medical services in Turkey, Egypt, and in the Northern Command.

Record Production of Cod Liver Oil.—There has been a catch of 74,000,000 Kg. of cod fish in the province of Finmarken, Norway, so far this year; the previous record catch of 1911 was only 50,000,000 Kg. The U. S. Department of Commerce states that the large catch and low prices on cod livers are causing tremendous productions of medicinal cod liver oil, the production so far totaling 108,000 hectoliters, or more than 25 per cent above the production of last year.

Imprisonment for Quack.—The *Deutsche medizinische Wochenschrift* relates that an "eye diagnosticator," formerly a locksmith, who claimed to diagnose disease by merely looking in the patient's eyes, was recently condemned by the courts at Münster to nine months imprisonment. The charge was manslaughter from negligence, as he had been treating a woman with cholecystitis, who died from peritonitis in three days. The experts testified that an operation in time might have saved her life.

Memorial to Dame Aldrich-Blake.—A suitable memorial has been arranged in remembrance of Dame Louisa B. Aldrich-Blake, who died last December. A traveling scholarship open to surgical women graduates of medical schools in the United Kingdom has been arranged, and replicas of her portrait by Sir William Orpen will be placed in the Royal Free Hospital and the Elizabeth Garret Anderson Hospital, at both of which institutions Dame Aldrich-Blake was consulting surgeon. The value of the traveling scholarship will be, it is hoped, £300, to be awarded every two or three years as the funds allow. Contributions toward the memorial may be sent to the treasurer, Sir Alan Anderson, 5, Fenchurch Avenue, E. C. 3, London.

Foreign Letters

LONDON

(From Our Regular Correspondent)

July 3, 1926.

Food Preservatives: Regulations Delayed

The minister of health has decided in consequence of representations made to him to postpone the operation of the public health (preservatives in food) regulations so far as they relate to bacon and hams, for a period of six months; i. e., until July, 1927. In making this concession, the minister stated that he cannot contemplate any further postponement of the regulations, and that he cannot entertain any suggestion that the presence of boron compounds shall be permitted in bacon and ham imported or sold in this country after the date mentioned. The representations to which the minister refers were made by a number of trade organizations which desire a postponement of at least a year, in order that they might have time to make the necessary changes in manufacturing processes on account of the prohibition of the use of preservatives. In regard to the admixture of coloring matter in food, which is prohibited by the same regulations, two Irish scientists, Mr. J. F. Drumm and Prof. J. Bayley Butler of University College, Dublin, have elaborated a process by which the canning of such vegetables as peas, beans and spinach can be carried on without the use of coloring matter, the natural flavor and color of the green vegetable being retained. For many years past it has been the custom of some canners to use copper sulphate to "fix" the color of the vegetables during the canning process. The problem of destroying spore-producing bacteria, while retaining the color and flavor of vegetables without the addition of coloring matter, has occupied the research departments of the canning factories for the last forty years, and great importance is attached to the discovery just made by the Irish workers.

The Prevention of Poisoning by Lead Paint

In the house of commons, the home secretary, Sir William Joynson-Hicks, moved the second reading of the lead paint (protection against poisoning) bill. He said that while total prohibition of lead paint would be the most complete means of prevention, there was a great demand for lead paint, and employers who used it said that the substitutes were not in all cases satisfactory, though the use of substitutes was increasing. Consequently the bill proposed regulation, not prohibition. The regulations had been agreed on between employers and employed. They would enable substitutes to be used, and would reduce the possibility of poisoning by lead paint. In the debate, Mr. Rhys Davies said that the joint industrial council of the painters and decorators had declared that it could not support any bill which gave less protection to persons employed in painting than the convention adopted at Geneva provided. Cases of white lead poisoning were increasing in this country (in 1919, 207; in 1922, 246; in 1923, 337, and in 1924, 486). How could the home secretary enforce regulations on wet rubbing down, the use of overalls, the cleaning of finger-nails, when 70,000 painters and decorators were distributed among 20,000 houses? The home secretary replied that he was going to ask for more factory inspectors. Mr. Harney said that white lead represented 20 per cent of the lead output of the world, and 90 per cent of white lead was converted into paint. The danger was in the dust of lead. In factories the dust, disease and death were appalling at one time, but regulations were applied and there was now no extraordinary danger in work-

ing in lead factories. Lord Henry Bentinck said that the regulations would be useless to check the spread of disease. Wet rubbing down of paint was a fraud as a safeguard. Mr. Clayton hoped the regulations would insist that the working overalls of painters were not to be taken to their homes. In chemical works the men's overalls were washed on the premises. The bill was read a second time by a majority of 131 to 56.

The Pharmacologic Testing of Drugs

Mr. Chamberlain, minister of health, opened the new laboratories of the Pharmaceutical Society of Great Britain. These have been established to deal with the increasing use of therapeutic substances of animal origin and the exactitude required in their composition. Under the act of 1925 relating to the therapeutic substances, provision is made for the control of substances "the purity or potency of which cannot be adequately tested by chemical means." The laboratories will test such substances. The various medical bodies have cooperated in the preliminary consideration of the scheme, and on their recommendation Dr. J. H. Burn of the Department of Biochemistry and Pharmacology of the National Institute for Medical Research has been appointed director of the laboratories. Mr. P. F. Rowsell, the past president of the Pharmaceutical Society, said that the pharmacologic testing of drugs was a field of work that had been explored only during the last twenty-five years but was rapidly widening, and recent advances made in the method of pharmacologic testing indicated clearly to the council of the society that the society should be associated with this work. Dr. Burn emphasized the advance, made chiefly by this country, in the exactitude of biologic assay, and said that the society had decided to establish a vitamin testing department, in order to accumulate evidence should the ministry of health contemplate adding vitamin-containing preparations to the schedule of the therapeutic substances act. In the past, medicinal substances had been largely derived from plant tissues, but now for gland extracts the pharmacists must forsake the garden and the field for the less savory purlieus of the slaughterhouse.

The Ross Institute for Tropical Diseases

The Prince of Wales will, on July 15, formally open the Ross Institute and Hospital for Tropical Diseases at Tibbett's Corner, Putney Heath. The institute has been founded to commemorate the twenty-fifth anniversary of the discovery by Sir Ronald Ross of the transmission of malaria to man through the bite of the anopheline mosquito. It will be devoted to laboratory research and clinical investigation. Its objects are to carry on intensive research work in the prevention and treatment of tropical diseases, to assist physicians interested in such diseases to make researches, to treat sufferers from tropical affections, and to create more interest in malaria and disease control work. A large modern residence has been bought and adapted at a cost of about $125,000, and the working expenses are estimated at from $40,000 to $50,000 a year.

New "Dangerous Drugs" Regulations

The home office has given notice of its intention to amend the dangerous drugs regulations in important particulars, mainly in order to carry out recommendations in the report by the ministry of health committee on morphine and heroin addiction. A tribunal of three physicians, assisted by a legal assessor, is to be set up to decide charges of improper supply or possession of drugs against a physician. At present the home secretary can, in cases of irregularity, withdraw a physician's general authority to supply and possess, but he cannot do so until he has prosecuted him under the dangerous drugs act and has obtained a conviction in a court of law. When a physician should lose his authority, it is considered undesirable that it should be necessary to chase him into the police court. The mere withdrawal of the authority is often the appropriate penalty, without the fines or imprisonment of the court. Moreover, the issue is essentially medical, whether administration of the drug was justified. It is therefore proposed to alter the regulations so that, if there is reason to think that a physician is supplying, administering or prescribing a dangerous drug to or for himself or anybody else otherwise than is required for medical treatment, the home office shall be able to refer the case to the new tribunal. If the tribunal so recommends, the home secretary may withdraw the physician's authorization and may exclude him from the benefit of the exception of the regulation which allows the dispensing of drugs by physicians, dentists and veterinary surgeons to be exempted from the general prohibition on supplying and procuring dangerous drugs. If the physician is thus excluded, he is forbidden to give any prescription for the supply of such drugs.

Regulation 5, which deals with the giving of prescriptions, at present must be in writing, signed and dated, and must specify "the total amount of the drug to be supplied on the prescription." The latter words are to be elaborated into "the total amount of morphine, cocaine, ecgonine or diamorphine or any salt thereof to be supplied on the prescription except that in the case of a preparation which is contained in the British Pharmacopeia, the British Pharmaceutical Codex, or the drug tariff issued by the minister of health for national health insurance purposes and which is not combined with any other preparation of any of the drugs not so contained, it shall be sufficient to state the amount of the preparation so contained." It is also proposed to add that a physician shall give a prescription only when required for purposes of medical treatment. The committee also considered the possibility of detecting cases in which a patient obtains the drug of addiction from two or more physicians concurrently.

For the purpose of securing this object the home office proposes to amend regulation 7, which states the occasions when possession is not illegal. One is when the possessor proves that the drug was supplied for his use by a physician or on and in accordance with a lawful prescription. It is proposed to remove this protection for the possessor if he is under treatment from a physician for addiction to any of the drugs or otherwise and is being supplied by a second physician and does not disclose the fact. Another change is to cause all physicians, dentists and veterinary surgeons, if not already obliged to do so, to enter in a separate register, in the case of each supply, purchase or other obtaining of drugs, particulars of the date of receipt of supply, the name and address of the person, body or firm from whom it is obtained, the amount obtained, and the form in which it is obtained. This will remove a doubt that has been expressed in certain recent prosecutions. A final proposal is that every one authorized to carry on the business of manufacturing, selling or distributing the drugs must keep them in a locked receptacle of which he or a qualified assistant holds the key.

Bicentenary Celebrations of the Medical Faculty of Edinburgh University

The bicentenary of the foundation of the Medical Faculty of Edinburgh has been celebrated. The proceedings opened with the university dinner, attended by more than 200 members and guests. Sir John Gilmour, the secretary for Scotland, opened a new suite of rooms for the surgery department of the university, excellently equipped out of a gift of $250,000 by the Rockefeller Foundation for research work.

ITALY

(From Our Regular Correspondent)

June 15, 1926.

Combating the Abuse of Alcohol

The senate has approved a law to combat alcoholism. Formerly one license for every 500 inhabitants could be granted; under the new law, only one for every thousand of population may be issued. The law provides also for the issuance of licenses to definite persons, abolishes the granting of temporary licenses, and limits the number of hours that licensed vending places may remain open.

Award of Prizes at the Academy of Lynxes

The Accademia dei Lincei has held its accustomed annual meeting for the award of prizes. Senator Scialoja spoke of the increasing number of scientific publications being issued under the auspices of the academy. The Santoro prize was bestowed on Professor Bignami for his researches in malaria, and the Maria Bianca prize was conferred on Professor Sanarelli, of the University of Rome, for his studies in infectious diseases.

Award of the Manson Medal

Senator Ettore Marchiafava, professor in the University of Rome, has been awarded the Manson medal by the Royal Society of Medicine and Tropical Hygiene of London, for researches on various problems of malariology.

A New Welfare Movement

A decree has been issued establishing at Rome a welfare agency called the Fondazione Vittorio Emanuele III, the purpose of which is to provide extended outings at the seashore and in health resorts for the children of soldiers employed on the railways during the war, who have been found in need of treatment. The service will be gratuitous for orphans, while for children whose fathers are still in the employ of the state a small amount will be charged.

Bibliography of Biologic Chemistry

Under the direction of the Società italiana di chimica biologica, the review *Biochimica e terapia sperimentale* plans to open a column for Italian bibliography of biologic chemistry, the purpose of which will be to coordinate the publications in this field by Italian authors, which are at present scattered through a large number of periodicals. The reviews of the literature will be made monthly, and later will be collected and arranged according to subject, to form a bureau of bibliography.

The Visit of American Physicians

About 200 American physicians, members of the Interstate Postgraduate Association of Physicians of North America, spent recently a week in Rome visiting the university clinics.

New Regulations Pertaining to Medicolegal Certifications

A recent decree establishes new regulations pertaining to the procedure to be followed in the medicolegal certification of wounds and maladies occurring in the personnel of the state administration. For the purposes of such certification, a medical council has been created, under the minister of war.

Hospitalization of the Tuberculous

According to statements published by Professor Campani, about 8,000 beds are provided in Italy for the hospital treatment of tuberculous patients. For Italy's total population of more than 40,000,000 with 350,000 tuberculous patients, the number of sanatoriums is insufficient. The lack of especially noticeable in southern Italy.

GENEVA

(From Our Regular Correspondent)

June 25, 1926.

Anemia of Pregnancy

Dr. Paul Grospierre has recently studied the anemia of pregnancy from cases at the Maternity Hospital of the University of Bâle. He concludes that the frequency of this affection increases in direct ratio with the frequency of the labors and age of the patient.

Grospierre considers anemia of pregnancy to be one of the toxemias of pregnancy. In anemia of pregnancy there is at first hemolysis bringing about characteristic changes in the blood and mild jaundice. As in other toxicoses there is a premature interruption of pregnancy, resulting from the action of the toxins on the uterine muscle. Labor, as in eclampsia, is rapid, uterine contractions are regular and strong, the loss of blood small. All this is due to vasoconstricting and stimulating action of the toxins on the uterine muscle. The latter frequently causes an increase of the blood pressure for the same reasons. Grospierre further points out why anemia of pregnancy should be classified with the toxemias: 1. The onset of the anemia always coincides with pregnancy, especially in its second half, at a time when toxins have formed in large amount and the organs of destruction of these toxins are fatigued. 2. The anemia is often accompanied by some other toxicosis. If the patient survives her labor, the blood formula becomes normal. As to treatment of the serious types of anemia, interruption of pregnancy and blood transfusion must be resorted to promptly. Grospierre concludes that the anemia of pregnancy is quite different from Biermer's pernicious anemia.

Percentage of Mononuclears

Another study has been carried out by Dr. P. Mercanton, at Lausanne, on the mononuclears in normal human blood. He finds that the older observers give a much lower percentage than those of today. Mercanton gives the following averages of large mononuclears: Adults: men, 5.330 per cent; women, 5.322 per cent; children, 5.3864 per cent.

Fever in Cancer

Dr. E. Gonet, in investigating fever in cancer at Geneva, examined 375 cases of "medical" cancer. There were 150 cases of afebrile cancer, representing 40.2 per cent of the total number of cases. Some of the patients had a normal temperature regardless of intercurrent infection or infectious disease. Gonet found ten instances of hypothermic cancer in 2.7 per cent of his cases. Regardless of the subnormal temperature, two had pneumonia and one an intra-abdominal perforation. For most observers, fever in cancer is due to infection. In 80 per cent of cases the increased temperature is due to infection, but there remain 20 per cent in which the cause of the fever is to be explained. Gonet asks whether the neoplastic cells in the circulation do not give rise to fever just as bacteria do. Gonet supposes that febrile malignant neoplasms are those having direct contact with the circulation. Thus, their toxins are absorbed in massive amounts. This hypothesis explains the frequency of blood metastasis in noninfected febrile cancer, as well as the frequency of fever in sarcomas, which are richly vascularized growths giving rise to metastasis by way of the circulation.

Digestive Hemoclasia

Dr. N. K. Gharagozlow has recently been working on the subject of digestive hemoclasia at the medical clinic of the University of Lausanne. His experiments were carried out on twelve patients; namely, four cases of catarrhal jaundice, two cases of hepatic stasis due to asystolia, three cases of hepatic cirrhosis, one case of secondary hepatic neoplasm

(metastasis of an alveolar cancer of the pancreas), and one case each of cholecystitis from gallstones and diabetes mellitus.

Some observers think that hemoclasis is not a symptom of an hepatic lesion, but rather a symptom of a vagotonic state, and this cannot be denied. Anaphylactic shock is related to the autonomic nervous system, and substances acting on the sympathetic and parasympathetic systems also influence anaphylactic shock. Now, since hemoclastic shock may be regarded as a special form of anaphylactic shock, it cannot be denied that the autonomic system may play a part in its appearance. It is difficult to explain the hemoclastic reaction encountered in hepatic affections if it depends only on the autonomic system and, as the reaction varies with the nature of the hepatic lesion, an important relationship must exist between hemoclastic shock and the hepatic lesion itself. The conclusion to all this is that hemoclastic shock is of real diagnostic value in diseases of the liver, as Widal has maintained, and the future will tell us whether or not the autonomic nervous system plays any part in the phenomenon.

JAPAN

(From Our Regular Correspondent)

June 15, 1926.

Commemoration Service for Dr. Koch

The Kitasato Institute held an annual commemoration service for Dr. Robert Koch, May 27, under whom Dr. Kitasato pursued his studies when in Germany.

"Sanocrysin" Therapy

Dr. Kobayashi, assistant expert in the Kitasato Institute, who has just been to Denmark to investigate "Sanocrysin" therapy in the Copenhagen University, has concluded that the present "Sanocrysin" must be improved before it can be applied to human tuberculosis.

Vice Director of Far East Epidemic Information Bureau in Singapore

Dr. Tadashi Sato has been appointed vice director of the Far East Singapore Epidemic Information Bureau of the Health Department of the League of Nations.

Literature on Cholera

Among Japanese epidemic literature, in course of compilation in compliance with the plan of the health department of the League of Nations, the section on cholera has been completed by Drs. Saeki and Takano, and soon will be sent to the head office of the League of Nations.

Physical Examination in Primary Schools

The Educational Department, which has established a resarch institute of physical education, has ruled that running, jumping, throwing and other athletic sports shall be taught in the schools. The authorities have undertaken general physical examination before and after exercise in all the primary schools.

New Tuberculosis Sanatorium

Tuberculosis in Tokyo has increased year after year, until 19,067 persons died of the disease in 1923. In that year the greater part of a tuberculosis sanatorium then in course of construction was destroyed by the earthquake. June 12, a new sanatorium was dedicated. The new building has 800 beds, and is one of the largest in the Far East. Dr. Tazawa has been appointed director.

Resignation of Dr. Doi

The syphilologist Dr. Doi, having reached the age limit of professorship at the Tokyo University, tendered his resignation. June 24, the faculty of the dermatologic institute, all medical students of the university, and his graduate pupils attended his last lecture. After the lecture an impressive farewell ceremony was held in his honor.

Investigation of Diseases of School Children

Educational department statistics recently published show the following diseases among school children:

Primary schools: 2,157,813 pupils over 6 years of age:

Diseases	Boys	Girls	Total Number
Trachoma	168,260	169,938	338,198
Other eye diseases	23,835	27,698	51,533
Defective hearing	5,262	3,482	8,744
Ear diseases	29,510	21,649	51,159
Gland diseases	2,406	2,181	4,587
Heart diseases	1,165	1,390	2,555
Anemia	1,069	1,156	2,225
Infectious skin diseases	20,514	10,860	31,375
Enlarged tonsils	26,418	51,207	77,625

Secondary schools: 350,511 pupils over 12 years of age:

Diseases	Boys	Girls	Total Number
Trachoma	12,156	11,002	23,158
Other eye diseases	3,433	2,437	5,870
Defective hearing	2,961	1,983	4,944
Ear diseases	1,852	1,168	3,020
Gland diseases	105	543	648
Heart diseases	509	451	960
Anemia	304	610	914
Infectious skin diseases	1,309	1,011	2,320
Enlarged tonsils	7,111	9,772	17,883

Normal schools: 25,400 pupils over 15 years of age:

Diseases	Boys	Girls	Total Number
Trachoma	951	471	1,422
Other eye diseases	537	362	899
Defective hearing	130	126	256
Ear diseases	114	36	150
Gland diseases	33	4	37
Heart diseases	85	24	109
Anemia	36	53	89
Infectious skin diseases	62	4	66
Enlarged tonsils	561	338	899

Trial of Gynecologic Masseuse

Judgment was given last April in the Tokyo local court in the case of a licensed masseuse who was charged with violation of the practitioner regulations by having treated 760 cases of gynecologic disease. In court, the opinions of experts differed, and she has been declared innocent on the ground that professional massage is not decidedly regulated by law. Several newspapers and medical magazines are adversely criticizing the decision on the ground that it will increase unlawful acts of professional masseurs to the menace of public health.

Exchange Professorship

The educational department believes that medical colleges, public or private, should have exchange professorships now and then. The medical colleges of Peking and Manchuria have been exchanging professors for the last five years. The medical college of the Seoul Imperial University has also made an exchange agreement with the Peking Medical College lately, under which Prof. Dr. Seijiro Kobayashi will lecture on parasitology.

Sewage Problem

Most of the 100,000 yearly cases of sickness in this country affect the digestive organs; typhoid accounts for 60,000 cases and dysentery for 22,000. Vegetables fertilized with human excrement cause the spread of the diseases, but considering the economic conditions of the farmers, the authorities cannot prohibit them fertilizing vegetables in this way. Dr. Takano, medical expert in the health bureau, the department of home

affairs, has designed an inexpensive septic tank in which disease germs will die spontaneously while stored for a month. The material then may be taken off for fertilizer. The authorities are advising farmers to build such tanks and also are making investigations prior to compelling them to do so. Dwellers in large cities are worried by the excretions problem. Tokyo, however, has big sewage tanks in the suburbs. In Seoul, Korea, a huge tank is being constructed from which the excretions are to be taken off for manure after a certain period.

BUDAPEST

(From Our Regular Correspondent)

June 18, 1926.

International Medical Exhibition: "The Protection of Man"

An exhibition called "The Protection of Man" was opened in the Budapest industrial pavilions in the city park, June 6. The exhibition is a collection of everything that pertains to the lengthening of human life. The material from the recent Dresden exhibition called "Der Mensch"—Man—has been lent to the Budapest exhibit. The more notable exhibits are: a medical-numismatic collection; a collection of ancient pharmaceutic vases; embryologic anatomic preparations; a collection of monstrosities; visceral models; an historical collection of physiologic apparatus; models of organs; an instrument for the examination of potted meat and sausages; methods for the determination of katalase, fats and sugar; apparatus for making ozone; an exhibit concerning infectious diseases; a collection of tumors; an exhibit dealing with internal secretory and metabolic disturbances; a collection of vesical and gallbladder stones; pathologic-anatomic preparations of circulatory and industrial diseases; dry bone preparations; standardized bacterial cultures; photographs of different bacteria; electrocardiograms; a miniature plaster model of the Budapest morgue; a collection of poisonous herbs and mushrooms; a collection of bullets; an exhibit of appliances used in suicide; frequently used poisonous drugs of especial interest; edible and poisonous weeds; a collection of blood pictures; a collection of roentgenograms of gastric and duodenal ulcers; cultures of Koch bacilli; artificial histologic cultures; the raw materials used in the national Magyar kitchen; tables illustrating the work of the medical clinic of Budapest University; a collection of instruments used in pediatrics; a collection of urinary calculi of children; preparations, drawings and photographs relating to acute infectious diseases and poisoning with potassium hydroxide; a collection of foreign bodies; a collection of brain cuts; photographs of the ears, hands and feet of insane persons; a collection of drawings, paintings and needle work made by asylum inmates; preparations illustrating pathologic changes of the eyes; a collection of foreign bodies removed from eyes; the spectacles of the late Count Stephan Tisza; preparations illustrating tuberculous processes; an echinococcus series; kidney preparations, ureteral calculi and roentgenograms of the urinary apparatus; foreign bodies found in the bladder; foreign bodies removed from the nose, pharynx, esophagus and respiratory organs; an exhibit illustrating the prevention of diseases of the buccal cavity; diseases of the teeth and jaw; a collection of material relating to the protection and education of the people; sanitation for laymen; handicraft objects; popular medicines; quack medicines used by fakers; bacteria cultivated from the water of the Danube and river Theiss; an historical exhibit of rural sanitation; the irrigation of farms; parasites, insects and their extermination; gunshot and stab wounds; roentgenograms of rachitic children; cholecystograms; photographs of spondylitis, and of deformities of the body due to bone tuberculosis.

Besides these, the following collections are on view: photographs of dental diseases; statistical tables, showing the work of the Budapest Ambulance Society; material used in the teaching of first aid; allegorical pictures illustrating how to give first aid; a demonstration of changes connected with abnormal function of the glands of internal secretion; a collection of cerebral and spinal tumors; preparations, models and photographs of congenital and acquired articular and osseous changes; a collection of pictures of war injuries and their treatment on the field; lifelike statues illustrating normal and pathologic postures of the human body; diagrams of the prophylaxis, pathology and treatment of acute infectious diseases; the total material of the Deutsches Hygiene Museum (Dresden) and Museum of Public Hygiene of the People (Budapest); tables, diagrams, preparations and roentgenograms of tuberculosis, its prevention and medical and social treatment; the fight against tuberculosis; propaganda work.

In a special pavilion the tuberculosis sanatoriums show the work done in connection with the treatment and education of the indigent tuberculous. Another pavilion serves for the exhibition of the struggle against the spread of venereal diseases. There is a collection illustrating dermatologic diseases. The ministry of labor exhibits models of houses built by the state for workmen, and tables showing the nutrition and education of the working classes and peasants. The prophylactic work against alcoholism is shown. One section shows the evolution of man from conception to birth, the normal and pathologic processes of the latter, and the individual and social protection of the wife. In another group is explained the development of the infant in its first three years of life, the pathologic conditions influencing development, the mental evolution of children, and the national organization tending to protect both healthy and sick infants. The Union internationale de secours aux enfants of Paris and other foreign establishments have exhibits in a separate pavilion. The life of state maintained children's work, the placing of children with families, and the social and medical attendance of cripples with congenital and acquired malformations is shown in a special section. There is an exhibit of reformatories in which the results of forced training is shown. Another section elucidates the function of closed and open children's protective institutions, and the preparation of the new people's food "Soja," a Hungarian invention, made of certain herbs, much cheaper than bread, while its nutritive value exceeds that of bread. The Hungarian Red Cross Society shows its instructive work done during and before the war. The Free Milk Society shows its work. The Free Bread Society exhibits a number of photographs of weakly children before and after being supplied with free bread. The Village Association exhibits a model village with all modern hygienic and sanitary equipment. There is an exhibit of the hand work of the Invalid Home. The Hungarian Baptist Congregation exhibits material showing its fight against the "one child system," tuberculosis, alcoholism, and the measures for the protection of the aged and infants. The Hungarian Association for the Prevention of Trade in Girls has exhibited pictures and drawings illustrating the evils of prostitution, and propaganda work against it. A special pavilion is devoted to death, where a collection of death masks, conserved corpses and models of different burial methods is exhibited. In the curative pedagogic section, details of the education of abnormal children is shown. A pavilion serves to display gymnastic and sporting apparatus; special Hungarian sports are held daily. In another pavilion advice is given to children as to selecting a career, and psychotechnical methods are used here by competent teachers who are also physicians. The invalidity section of the ministry of welfare exhibits photographs and roentgenograms showing the restitution of crippled limbs, artificial limbs and

other prosthetic devices which are manufactured in their own workshops. The criminologic museum of the state police exhibits instruments used in the fight against antisocial and antinational individuals. It visualizes all the details of criminal investigation. The workmen's compensation office exhibits models, photographs and statistical tables presenting its activity during the last decade.

The foreign section of the exhibit contains the preparation of Spalteholz, the "Transparent Man." In fine specimens the evolution, anatomy and physiology of man are displayed. All preparations are embedded in glass; hence their name, the "transparent man." The exhibit of the Wilhelminen Hospital of Vienna deals with the treatment of lupus and its results. There is an exhibit of operations for the removal of foreign bodies, different methods of treating fractures and an ambulance kit used in cases of railway disasters. Models of artificial limbs, some of them original, are shown. The society "Die Flamme" exhibits a model of its crematory. The Vienna *Gesunden Kasse* (union of the healthy) displays its scheme of social work, directed toward the prevention of disease. The hygienic institute of the University of Graz exhibits models of drinking wells, with special regard to the prevention of goiter. The town of Baden, Austria, exhibits a collection of skulls. From Vienna come exhibits, models, pictures and statistics relating to children's health.

BERLIN

(From Our Regular Correspondent)

June 12, 1926.

The Credibility of Juvenile Witnesses

In his recently published work, "Jugendliche Zeugen in Sittlichkeitsprozessen" (Juvenile Witnesses in Suits Involving Immorality), Prof. Dr. William Stern shows how easily children and juveniles are influenced by questions that bear within them a suggested reply, and how easy it is for a child to come to believe and to insist on the truth of false or loose statements, as the result of testifying at repeated hearings. There is a tendency for testimony of juveniles to become more and more untrustworthy, the oftener it is repeated. The difficulty of securing accurate information from children is further complicated by the fact that parents often use corporal punishment "to freshen their memory." Following the parents come the police, who usually deal with the situation in such a rude way that juveniles are profoundly influenced psychically. Under all circumstances in which juveniles are concerned, the preliminary police hearing should be made as short as possible and cases should be brought at once before judges who would appoint qualified persons to conduct a hearing with the aid of psychologists. A child's statements are often influenced by his imagination. For instance, three girls told their teacher that, on the previous afternoon, a strange man had accosted them in one of the vacant rooms at school and had threatened to stab them. An investigation revealed that there was not a word of truth in their story, and yet the assumption seemed strongly supported that not one of the girls had any intention of uttering an untruth.

The most tragic case of all is the following: The principal of a school had been giving a 14 year-old girl private instruction. One day he broke off the private lessons because the girl, who conceived the notion that the teacher thought she was lying to him, had, weeping, thrown her arms around his neck and kissed him. The parents pressed the child with questions to discover whether anything further had happened, which assumption the girl denied. Five weeks later she committed suicide by drowning, and in a letter she stated that the principal had brought "great—very great—disgrace" on her. On the basis of the letter, the principal was sentenced to two years in the penitentiary. Thus far attempts to have the case reopened have been futile, although even to a layman it is apparent that it was owing to the suggestive questions of the parents that the child gradually conceived the notion that her teacher had brought disgrace on her, and that, under the peculiar influences that surround the onset of puberty, she had allowed that conception to take possession of her mind. After the death of the girl, her virginity was established by a medical examination. In court proceedings and in preliminary hearings, the cooperation of psychologists should be obligatory, particularly in trials involving moral delinquencies.

Restrictions on Medical Advertising

A booklet issued by the executive committee of the Hamburgische *Aerztekammer* (chamber of physicians) contains the following: "Physicians must be very conservative with respect to the size and shape of office signs. They must not bear any objectionable details with regard to modes of treatment, such as phototherapy, electric treatment, roentgenologic examination, diathermy, blood examination, cosmetic treatment, elimination of defects. Announcements with reference to roentgen-ray examinations and roentgenologic treatment are restricted to roentgenologists by profession. The wording on signs must be all in one color. Signs should not ordinarily be larger than 30 by 40 cm. Special permission must be secured from the committee appointed by the *Aerztekammer* before affixing signs at any other place than the place of practice. The posting of placards in drug stores and other public places is prohibited. Attracting attention by notices in city directories, telephone directories and the like, by a special form of type or reference to special modes of treatment, is unethical."

PRAGUE

(From Our Regular Correspondent)

July 1, 1926.

Death of Professor Babak

The death of Professor Edward Babak of Brno is recognized as a serious loss to those familiar with Czech medicine. Professor Babak was a man of international reputation and one who built up a whole generation of pupils. He was born in 1873 in Smidary, Bohemia, and obtained his medical education at the Czech medical faculty in Prague. He began lecturing at the same faculty in 1903 on general physiology. Professor Babak was the organizer of the medical faculty in Brno. He assembled men and money for the maintenance of the medical faculty. He was the organizer of the Czechoslovak Biologic Society and the editor of the Biologicke Listy (*Biologic Review*). He organized also the excellent school of veterinary medicine at Brno. His publications comprise 160 papers printed in Czech and German biologic periodicals. He started his research activities in continuation of the work of his teacher Professor Mares on the metabolism of the new-born. Soon he found his own line of physiologic research in comparative physiology, which he introduced into Czech biology. His studies on respiration are summarized in Winterstein's Handbuch der vergleichenden Physiologie, in which he wrote the volume on respiration. Of his popular treatises should be mentioned his book on Nutrition and another one on the Biology of the Child. The last topic was one of his hobbies and found expression in the foundation of the Scientific Society for the Study of the Child. A small accident (fracture of the calcaneus with embolism of the pulmonary artery) brought his fertile life to a premature end.

Visit of American Physicians

The Czechoslovak Republic has had a visit of more than 100 American physicians arranged through the Inter-State

Postgraduate Association of North America. The group were guests of the Czech and German medical faculties in Prague. On June 13, an excursion was arranged to the radium watering place in Jachymov, from which comes the uranium ore in which the Curies discovered radium. From Jachymov the group was brought to Carlsbad. Apparently, the American visitors were satisfied with their trip, and the excursion was a useful means for the spread of mutual information.

Seventieth Birthday of Professor Janosik

Prof. Jan Janosik, the senior of the Czech medical faculty in Prague, is celebrating this month his seventieth birthday. Professor Janosik was born in 1856 in Vrbatky, Moravia, and graduated in medicine at the Prague medical faculty. In 1884 he began lecturing on histology and embryology, which remained his chief line of research even after he became the chief of the Institute for Normal Anatomy at the Czech Medical Faculty in Prague. He has won repute through his studies on the development of the genito-urinary system, the pancreas and the spleen. He wrote also a treatise on Histology and Embryology for students and a textbook on Normal Anatomy.

Arteriosclerosis Among Surgeons

Dr. E. Rychlik aroused considerable interest through the article that he published recently on the hygiene of the operating room. He called attention to the fact that most of the prominent Czech surgeons die early as a result of arteriosclerosis. As instances he cited Maydl, Pavlik, Pitha, Kukula and Znojemsky, who all died before the age of 55 under different clinical manifestations of arteriosclerosis. He does not believe that it could be caused by overwork and mental strain, for similar expenditure of energy can be found in other branches of medicine without the same harmful effects. He comes to the conclusion that the chief cause of the high mortality among surgeons is the bad hygiene of operating rooms. He has found that the performance of an operation in a small operating room is more exhausting than the same performance in an airy room. Another unfavorable factor is the high temperature which many surgeons require for the operating room from the fear of pneumonia or alterations of the abdominal organs exposed during the operation. In Dr. Rychlik's experience there was no such occurrence in spite of the fact that long ago he discarded the overheating of the operating room. Often the sterilizing room adjoins the operating room, so that the vapor can penetrate directly into the room where the operation is being performed. Most of the disinfectants for the hands have been discarded because of the danger of chronic poisoning through absorption. In most hospitals, denatured alcohol is now used for this purpose. The atmosphere, filled with anesthetic vapors which undergo decomposition in the wet and hot atmosphere of the operating room, give rise to poisonous gases. The use of local and spinal anesthesia should find the widest application in surgery for the benefit of the surgeon and the patient. Dr. Rychlik pleads also for better recreational facilities for young physicians in the hospitals.

Changes in Medical Curriculum

The German Medical Faculty in Prague has worked out some changes in the medical curriculum to be tried out in the coming semesters. Students will be introduced into the clinical subjects earlier than formerly. Pathology will be taught in the later semesters, together with pharmacology, toxicology and hygiene. The idea of the reform is to bring the medical student as early as possible into contact with the patient, and give him the theoretical sciences as the necessary supplement of the experience that he has gained at the bedside.

Marriages

BARTHOLOMEW FRANCIS MACCHIA, Boston, to Miss Victoria Louise Bellizia of Arlington Heights, Mass., June 25.

WILLIAM PAYNE THOMPSON, New York, to Miss Margaret Elizabeth Caughey of Glens Falls, N. Y., July 1.

DON B. STEWART, Zeigler, Ill., to Miss Helen Perry of Mount Vernon, at Louisville, Ky., June 23.

WILLIAM L. HANSON, East St. Louis, Ill., to Miss Mildred Champion of Granite City, June 29.

WALTER R. MANSFIELD, Boston, to Mrs. Charles E. Osgood of Jamaica Plain, Mass., June 12.

WILLIAM P. HOFMANN, Davenport, Iowa, to Miss Marie Burnette of Lost Nation, May 18.

HARLAN PAGE MILLS to Mrs. L. Colton Thompson, both of Phoenix, Ariz., June 28.

ANTHONY P. DEGRAFFENRIED to Miss Helen Purdy, both of Bayside, N. Y., May 19.

DEWEY E. MOREHEAD, Oxford, Wis., to Miss Ruth Howe of Minneapolis, June 22.

Deaths

Alexander Duane ⊕ New York; Medical Department of Columbia College, New York, 1881; member of the American Academy of Ophthalmology and Oto-Laryngology (president, 1923), the American Ophthalmological Society and the New York Ophthalmological Society; served during the Spanish-American War; author of a textbook on ophthalmology and other books; aged 67; died, June 10, at the Neurological Institute.

William Otto Gross ⊕ Fort Wayne, Ind.; Fort Wayne College of Medicine, 1893; past president of the Allen County Medical Society; formerly professor of toxicology, Indiana University School of Medicine, Indianapolis; president of the Wayne Pharmacal Company since 1913; member of the school board, 1904-1907; at one time on the staff of the Lutheran Hospital, where he died, June 25, of heart disease; aged 65.

Frank George Wheatley ⊕ North Abington, Mass.; Dartmouth Medical School, Hanover, 1884; vice dean and professor of pharmacology, Tufts College Medical School, Boston; formerly member of the state legislature; chairman of the school board for several years; member of the House of Delegates of the American Medical Association, 1906, 1911-1912; aged 74; died, June 14, of acute melancholia.

Claude M. Jones, Grimesland, N. C.; University of Maryland School of Medicine, Baltimore, 1892; member of the Medical Society of the State of North Carolina; aged 65; died, May 23, at the Washington (N. C.) Hospital of injuries received when struck by an automobile.

Sherman T. White ⊕ Redding, Calif.; Eclectic Medical Institute, Cincinnati, 1888; St. Louis College of Physicians and Surgeons, 1900; president of the Shasta County Medical Society; aged 62; died, June 19, of edema of the lungs.

Sidney Curtis Hardwick, Maitland, Fla.; Tufts College Medical School, Boston, 1905; member of the Massachusetts Medical Society; served during the World War; aged 42; died, June 16, at Hingham, of pulmonary tuberculosis.

James T. Milner, Patesville, Ky.; Louisville Medical College, 1897; member of the Kentucky State Medical Association; member of the county board of health; aged 53; died, May 28, at the Owensboro City (Ky.) Hospital.

Willis Virgil Kingsbury, Butte, Mont.; St. Louis College of Physicians and Surgeons, 1887; member of the Medical Association of Montana; served during the World War; aged 61; died, June 14, of cerebral hemorrhage.

Robert Scott Spilman, Lexington, Va.; University and Bellevue Hospital Medical College, New York, 1899; member of the Medical Society of Virginia; Spanish-American and World War veteran; aged 58; died, May 22.

Edward Eames Holman ⊕ Pine River, Minn.; Hahnemann Medical College and Hospital, Chicago, 1878; Harvey Medical College, Chicago, 1896; proprietor of a hospital bearing his name; aged 71; died, June 25, of myocarditis.

Frederick Roland Malone, Greensboro, Md.; University of Maryland School of Medicine, Baltimore, 1882; member of the Medical and Chirurgical Faculty of Maryland; aged 67; died suddenly, May 18, at Chestertown.

John F. Johnson, Fullerton, Neb. (licensed, Nebraska, 1891); member of the Nebraska State Medical Association; Civil War veteran; formerly county and city health officer; aged 84; died, May 22, of angina pectoris.

John Jacob Remsburg, Mount Pleasant, Md.; Maryland Medical College, Baltimore, 1901; member of the Medical and Chirurgical Faculty of Maryland; aged 63; died, February 10, of bronchopneumonia.

Louis Spanier, New York; Columbia University College of Physicians and Surgeons, 1903; member of the Medical Society of the State of New York; aged 45; died, June 3, at the Neurological Hospital.

August Schwarze, St. Louis; Missouri Medical College, St. Louis, 1882; member of the Missouri State Medical Association; aged 77; died, June 28, at the Lutheran Hospital, following an appendectomy.

John T. Howell ✠ Wilkes-Barre, Pa.; Jefferson Medical College of Philadelphia, 1881; on the staff of the Wilkes-Barre General Hospital, where he died, June 16, aged 75, of carcinoma of the stomach.

George Robinson Glass, Uniontown, Pa.; College of Physicians and Surgeons, Baltimore, 1891; member of the Medical Society of the State of Pennsylvania; aged 58; died, June 22, of cerebral hemorrhage.

John Wright Withers, Pine Bluff, Ark.; Medical Department of the University of the City of New York, 1879; formerly member of the board of health; aged 70; died, June 24, of cerebral hemorrhage.

John Prior Douglas, Arlington, Tenn.; University of Nashville Medical Department, 1873; Civil War veteran; for fifteen years superintendent of the Western State Hospital, Bolivar; aged 82; died, May 27.

Clarence Gilbert Goodwin, Chicago; Northwestern University Medical School, Chicago, 1903; member of the Illinois State Medical Society; aged 56; died, June 28, of cerebral hemorrhage.

John W. Deckard, Richfield, Pa.; Cincinnati College of Medicine and Surgery, 1874; member of the Medical Society of the State of Pennsylvania; aged 76; died, April 14, of pneumonia.

Everhard Hamilton Richardson ✠ Cedartown, Ga.; University of Georgia Medical Department, Augusta, 1872; president of the Polk County Medical Society; aged 76; died, May 15.

Edward M. Copeland, London, Ont., Canada; University of Western Ontario Medical School, London, 1890; aged 67; died, May 17, at the Victoria Hospital, following a long illness.

Thomas B. Miller, Goodnight, Texas; Kentucky School of Medicine, Louisville, 1881; aged 73; died at Fort Worth, March 6, of shock, following an operation on the prostate.

Marshall Price Jones, Churchville, Va.; College of Physicians and Surgeons, Baltimore, 1892; member of the Medical Society of Virginia; aged 62; died, May 21, at Staunton.

Martha Cochrane Strong, Jackson, Mich.; University of Michigan Medical School, Ann Arbor, 1875; member of the Michigan State Medical Society; aged 81; died, June 24.

Samuel Kutscher ✠ New York; Columbia University College of Physicians and Surgeons, New York, 1909; on the staff of the Lebanon Hospital; aged 40; died, May 31.

John William Sanford ✠ Ripley, Tenn.; Memphis Hospital Medical College, 1886; aged 63; died, June 25, at the Baptist Memorial Hospital, Memphis, of bacillary dysentery.

Arthur George Cooke, Herkimer, N. Y.; Albany Medical College, 1910; formerly a practitioner in Chicago; served during the World War; aged 42; died, May 25.

M. F. Griffin, Parkersburg, W. Va.; St. Louis College of Physicians and Surgeons, 1893; aged 66; died, May 20, at the home of his daughter in Point Pleasant.

Wallace Nelson Moore, Englehart, Ont., Canada; University of Toronto Faculty of Medicine, 1923; aged 27; died, April 18, at St. Michael's Hospital, Toronto.

Willis Jay Ramsay Brewster, Valatie, N. Y.; Bellevue Hospital Medical College, New York, 1890; aged 62; died, April 18, of carcinoma of the intestine.

William Dunlap, Detroit; Rush Medical College, Chicago, 1869; Civil War veteran; aged 75; died in May, of chronic prostatitis and interstitial nephritis.

Joseph Warren Worcester, Middletown, N. Y.; College of Physicians and Surgeons, Baltimore, 1888; also a dentist; aged 66; died suddenly, April 25.

Carl E. Cashatt, Salem, Ore.; University of Oregon Medical School, Portland, 1914; aged 46; died, June 8, at Oakland, Calif., of chronic nephritis.

Joseph M. Huber, Chicago; Hahnemann Medical College and Hospital, Chicago, 1906; aged 50; died, June 10, of chronic nephritis and uremia.

Howard Terry, Jr., Phoenixville, Pa.; Hahnemann Medical College and Hospital of Philadelphia, 1901; aged 49; died, May 19, of heart disease.

Bert C. Sickles, Petoskey, Mich.; Detroit Medical College, 1881; aged 69; died, June 7, at the Blodgett Hospital, Grand Rapids, of heart disease.

William MacIntosh, Philadelphia; University of Pennsylvania School of Medicine, Philadelphia, 1883; aged 75; died, June 23, of myocarditis.

John James Mustard ✠ Olympia, Wash.; University of Southern California College of Medicine, Los Angeles, 1907; aged 48; died, June 13.

Charles M. Williams, Kokomo, Ind.; Central College of Physicians and Surgeons, Indianapolis, 1881; aged 78; died, June 1, of paralysis.

Samuel Shouse Woodburn, Pittsburgh; Jefferson Medical College of Philadelphia, 1882; aged 67; died in June, of angina pectoris.

Edward C. Allworth, London Mills, Ill.; Jenner Medical College, Chicago, 1898; aged 68; died, June 13, of carcinoma of the throat.

Gustave H. Michel, Cleveland; Western Reserve University School of Medicine, Cleveland, 1898; aged 67; died, June 10, of carcinoma.

Merinda M. Haughton, Paris, Maine; Eclectic Medical College of Maine, Lewiston, 1886; aged 89; died, March 14, of carcinoma.

William Franklin Twigg ✠ Cumberland, Md.; University of Maryland School of Medicine, Baltimore, 1883; aged 69; died, June 6.

William S. Herdman, Olympia, Wash.; Cooper Medical College, San Francisco, 1873; aged 75; died, May 23, at Vashon.

Charles R. Oatman, Collinsville, Ill.; St. Louis Medical College, 1871; aged 80; died, June 29, of heart disease and senility.

Herbert Orson Munson, Manley, Neb.; University of Nebraska College of Medicine, Omaha, 1895; aged 51; died, May 29.

James Frank Raine ✠ Sykesville, Pa.; College of Physicians and Surgeons, Baltimore, 1905; aged 57; died suddenly, June 3.

Louis V. Benoit, St. Hyacinthe, Que.; Laval University Medical Faculty, Montreal, 1886; died in April, of pneumonia.

George Rubard, Bellevue, Ohio; Eclectic Medical Institute, Cincinnati, 1871; aged 76; died, in May, at Fremont.

Arthur Grant Church, Marfa, Texas (licensed, Texas, under the Act of 1908); aged 47; died, June 1, of uremia.

Oscar Everett Abel, Modoc, Ind.; Medical College of Indiana, Indianapolis, 1885; aged 66; died, June 2.

John A. Brophy ✠ Philadelphia; Medico-Chirurgical College of Philadelphia, 1897; aged 61; died, June 9.

Edwin G. Mason ✠ Cawker City, Kan.; Eclectic Medical Institute, Cincinnati, 1885; aged 71; died, May 5.

Leonard Franklin Cline, Kitchener, Ont., Canada; Trinity Medical College, Toronto, 1888; died, April 22.

H. Horace Long, Orion, Ill.; Jefferson Medical College of Philadelphia, 1868; aged 85; died, June 6.

Cornelius Dekker, Grand Rapids, Mich.; Louisville Medical College, 1897; aged 54; died, April 24.

Lawrence Henry Peebles, Bishopville, S. C.; Atlanta Medical College, 1879; aged 72; died, May 31.

George Cheney Bliah, Galena, Ill.; Chicago Medical College, 1881; died, July 4, of heart disease.

Thomas J. Osburn, Stonefort, Ill. (licensed, Illinois, 1877); aged 86; died, May 28.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

NATIONAL GOITER TREATMENT

At Mason City, Iowa, a concern known as the "National Goiter Treatment Corporation" has been treating goiter on the mail-order plan. The concern was incorporated in March, 1923, and the incorporators and officers were:

H. G. HAMILTON, President.
L. M. HAMILTON, Vice President.
A. J. GAMM, Secretary and Treasurer.

H. G. Hamilton is said to be a promoter, while L. M. Hamilton is the wife of H. G. A good many of the letters that have been sent out, in the past at least, purporting to come from the "medical department" of this concern, have been signed either "Dr. E. McEwen" or "Dr. H. H. Lawrence."

According to our records, Earle McEwen was born in 1857 and was graduated by the Hahnemann Medical College and Hospital in 1881, being licensed in Iowa in 1887. Presumably the local medical society is not familiar with the fact that Dr. McEwen is, or at least has been if he is not still, connected with this goiter cure concern, as he is a member of his local society and through that has qualified as a Fellow of the American Medical Association.

Herbert H. Lawrence, who, presumably, is the H. H. Lawrence whose signature has appeared on some of the National Goiter Cure material was, according to our records, born in 1867, and was graduated by the Chicago Homeopathic Medical College in 1893, being licensed in Iowa in 1896. He is not a member of his local society.

Letters have been received during the past two or three years from physicians and others similar in tenor to those that follow. This from a Minnesota physician:

"Will you kindly give me the 'low-down' on Dr. E. McEwen of Mason City, Iowa? One of my patients has been interviewed recently on two occasions in an effort to get her to subscribe to his treatment for goiter cure, guaranteed for ten years, to the tune of a cash payment of $35 with the remainder of $140 to be paid within thirty days."

This from a minister in Iowa:

"A few days ago an agent of the National Goiter Treatment Corporation, Mason City, Iowa, called on us and said that his company cures goiters in about one year's time. The cost would be about $175 to $240. They claim to cure with medicine, and that their way is the only right way. Would you tell me what you know and think about this?"

This from an Illinois physician:

"Will you kindly send me what information you have in regard to the National Goiter Treatment Corporation, Mason City, Iowa? A Dr. McEwen is supposed to be at the head of this concern."

A Michigan lawyer wrote:

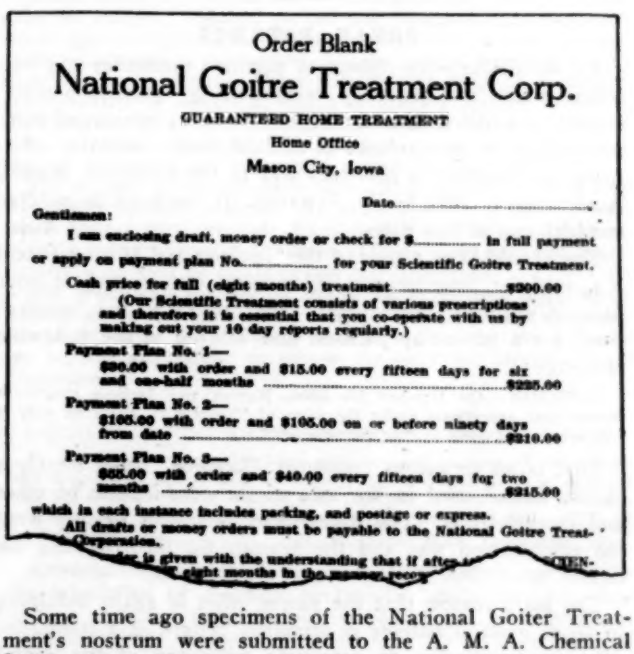
"I have a client who very foolishly agreed to take a course of treatmept from the National Goiter Treatment Corporation of Mason City, Iowa. The medicine they sent made her deathly sick, so she had to discontinue taking the treatment. She wrote to this concern the results of the treatment and they wrote back recommending that the doses be reduced to one-half the former amount, so she began again, but with the result that she again became ill. A local doctor, of course, advised the entire discontinuance of the treatment. This lady has very foolishly paid this concern an advance fee, and, as she is a poor woman, I would like, if possible, to assist her to get this back. She received a form of guarantee, but before she could finish complying with its terms, she would doubtless be dead."

The National Goiter Treatment Corporation's victims seem to have been obtained by agents. Representatives of the company would go to the smaller towns and get in touch with those who either have goiter or who think they have goiter. Apparently a diagnosis was made on the basis of a questionnaire of the type usually employed by mail-order quacks. In common also with mail-order quacks, the concern has used what it is pleased to call a "guarantee." One of the guarantees that we have in our possession is printed on buff-colored paper in gold and dark blue. It bears a serial number and an imposing gilt seal with a purple and yellow ribbon. The guarantee reads as follows:

"If after taking our Scientific Treatment eight months in the manner recommended by us, and our suggestions in regard to the treatment have been followed out; and if you have written one letter every ten days telling us of your condition and have not obtained satisfactory results; we, the undersigned, do hereby agree to extend the time of your treatment, without charge, until we are convinced that we cannot obtain satisfactory results for you, and you hereby agree to give us your hearty co-operation during this extended period. This guarantee is void in the following cases: if patient gets married, or becomes pregnant while taking this treatment. In the event we fail to get satisfactory results for you, upon your request, we will refund the money you have paid for our treatment, purchased since the date hereof. We guarantee our treatment not to contain narcotics or habit-forming drugs."

A careful reading of this indicates that the victim must continue using the preparation until the mail-order concern is convinced that it "cannot obtain satisfactory results" before a refund would be made.

A physician in Minnesota reported the case of a man who was called on by an agent of the National Goiter Treatment Corporation, "who measured his neck and then added one-half inch to this measurement, so that the company would realize the seriousness of the complaint." This man took the "treatment" religiously for some time without results: in fact, in one of his letters to the company he stated that his goiter was getting larger, to which they replied that enlargement of the goiter was usual during the menstrual period!



Order Blank

National Goitre Treatment Corp.

GUARANTEED HOME TREATMENT

Home Office

Mason City, Iowa

Date.....

Gentlemen:

I am enclosing draft, money order or check for $..... in full payment or apply on payment plan No..... for your Scientific Goitre Treatment.

Cash price for full (eight months) treatment.....$200.00
(Our Scientific Treatment consists of various prescriptions and therefore it is essential that you co-operate with us by making out your 10 day reports regularly.)

Payment Plan No. 1—
$20.00 with order and $15.00 every fifteen days for six and one-half months.....$225.00

Payment Plan No. 2—
$105.00 with order and $105.00 on or before ninety days from date.....$210.00

Payment Plan No. 3—
$55.00 with order and $40.00 every fifteen days for two months.....$215.00

which in each instance includes packing, and postage or express.

All drafts or money orders must be payable to the National Goitre Treat- Corporation.

...order is given with the understanding that if after ... eight months in the manner recom...

Some time ago specimens of the National Goiter Treatment's nostrum were submitted to the A. M. A. Chemical Laboratory, with the request that they be analyzed. The Laboratory reported as follows:

LABORATORY

"Two original bottles labeled 'National Goiter Treatment Corporation' were submitted to the American Medical Association Chemical Laboratory for examination. The wording on the labels of each of the bottles was in the main the same, except that one bottle contained the statement 'Not Over 10 per cent. Alcohol' and carried a typewritten designation 'Prescription 1f,' while on the other bottle was printed 'Not Over 15 per cent. Alcohol' and a typewritten designation 'Prescription 3K.' Each bottle contained about 240 cc. (8 fluidounces) of a dark brown syrupy liquid with suspended matter present and having an odor resembling so-called sarsaparilla. Qualitative tests indicated the presence of sodium, potassium, tannic acid, alcohol, a relatively large amount of sugar, and traces of iron and aluminum. Iodides were present in one specimen and absent in the other. Alkaloids, emodin-bearing (laxative) drugs, and arsenic compounds were not found. The following quantitative estimations were made (as iodide was absent in specimen 3K, quantitative estimations of sodium and potassium were not made):

	Sample 1f	Sample 3K
Specific gravity	1.39	1.21
Ash	0.32%	0.29
Potassium (K^+)	0.452%	....
Sodium (Na^+)	0.152%	....
Iodide (I^-)	1.70%	None
Alcohol	8.2%	17.4%

"The amount of iodide in specimen '1f' is equivalent to 2.22 per cent potassium iodide. The manufacturers direct that one teaspoonful of the syrup be taken thirty minutes after each meal. Each dose (4 cc.) therefore, contains the equivalent of 0.12 Gm. (1⅞₀ grains) of potassium iodide, and the daily dose recommended is equivalent to 0.36 Gm. (5⅝₀ grains) of potassium iodide."

The dangers of administering iodides in cases of hyperthyroidism are obvious enough to physicians, but would not be obvious to the general public, even if those who took the National Goiter Treatment were in a position to know what they were getting. We were not surprised, therefore, when a Minnesota physician reported three cases of patients who had taken this nostrum with serious untoward results. The physician added that, apparently, when the victims of the concern complained, they got no results and the only satisfaction was "another batch of medicine and advice."

Correspondence

FREAK PATENTS

To the Editor:—In respect to patented medicines and nostrums which are generally controlled by "process patents" I think you will find, as I did, that the most interesting communication on that subject in medical annals was the report made to Congress in 1849-1850 and to the American Medical Association in 1850, by Dr. Edwards. It could not be bettered much if any at this date.

You should have a copy of the "Jackson and Morton Patent No. 4848 for Improvement in Surgical Operations" in your files. Gwathmey (Anesthesia, 1924) refers to the "application" for a patent by Jackson and Morton in the following language:

> LETHEON.—On October 27, 1846, Morton and Jackson sought to patent their anaesthetic under the name of "Letheon." From its odor it was soon recognized as "sulphuric ether."

That is an erroneous statement, "Letheon" being merely a "trade name" used in the sale of the combination of ether and essential oils. The patent itself discloses exactly what the combination was and the reasons for incorporating the oils.

The main reason that the patent office is again indulging in freak medical patents is primarily failure of a committee of your association to cooperate with one of the dental profession on the subject in the early nineteen hundreds. As chairman of the Patent Committee of the National, now American Dental Association, I had the honor to be in charge of legislation to prevent the issuing of such patents respecting dentistry, and I made a personal plea to the members of your committee then meeting in Washington, D. C., to cooperate to the end that the practice be stopped, and indicated that the amendment to the patent laws in my charge was equally applicable to medical practice and as important.

Our efforts had succeeded to the point of having a favorable report from a house committee and the sympathy of President Theodore Roosevelt, but all the encouragement that was given me by the chairman of the medical committee was that the members as individuals might assist if they chose.

However, I received no such assistance, except from leading members of the medical profession which I solicited (Drs. Osler and Welch of Baltimore among them), notwithstanding that the pressure became so strong that the Patent Office officials and the graduate in medicine in charge of the section to which such patent investigation belonged, Dr. Williamson, agreed not to issue patents on the art of healing disease conditions of the human body "unless they could be placed on the market and sold." This would have been the effect of the legislation then being promoted by our association had it been passed.

The Patent Office did not desire legislation because it might interfere with "process patents" of all descriptions, the supreme court having indicated in the Risdon Iron Works and the Westinghouse decisions, that it was an open question if process patents were patentable under the laws of the United States, unless they contained chemical or other elemental action.

It might also be interesting to physicians to know that this confusion in the minds of the court was due to the decision of the court in the case of *Morton* v. *New York Eye and Ear Infirmary* in respect to the Charles T. Jackson and W. T. G. Morton patent no. 4848 of Nov. 12, 1846, for "An improvement in surgical operations" (ether anesthesia).

This decision is a leading case in the courts today as it was when first decided in 1862, that the patent was invalid and is the deciding feature in all "process patents."

The court said (respecting the Morton process, 1862):

> It is nothing more in the eye of the law than the application of a well known means to a new and more perfect use, which is not sufficient to support a patent.

This decision controls today, and the supreme court in what is known as the Expanded Metal Case merely followed its former reasoning by adding practically the principle of the legislation we were promoting before Congress at the time the decision was made; viz., "unless it contains chemical or other elemental action" or can be manufactured and placed on the market and sold. The production of the "expanded metal" in the process patented was such that it could "be placed on the market and sold" as it was manufactured in original form.

The precarious position of "process patents" ever since the Morton decision and reasoning of the court has been a constant worry to the American Manufacturers Association and the Patent Attorneys' Association, both of which bodies strenuously objected to the legislation we were promoting to amend the patent laws, and the principle referred to above controls the situation today.

The patent of which you complain, no. 1369997, involves no different principle than that of the Morton patent, and therefore is not patentable under the patent laws of the United States, and would be declared invalid should court action be taken, the fact that the patent has been granted notwithstanding.

EMORY A. BRYANT, D.D.S., LL.B., M.P.L.,
Washington, D. C.
• Lieutenant Commander (D. C.), U. S. Navy.

NAME BADGES FOR NURSES AND STAFF

To the Editor:—It is an accepted fact that a personal relationship between patient and physician, and patient and nurse, is an important factor in aiding in the recovery of the patient. In order to obtain that personal relationship, it is necessary that the physician and the nurse should not consider the patient only as a case but as a human being.

In order to add to the personal touch, I have inaugurated at our hospital name badges for the nurses. Each nurse has a badge with her name printed on it, which she wears while on duty. This serves as an introduction between the nurse and the patient, and helps to establish a more confident feeling in the patient toward the nurse. It also helps the physicians to know the nurses that are to carry out their orders. It aids the supervisor in knowing her nurses and remembering their names. It permits the patient to call the nurse by name, to which she responds more cordially, and enables the patient to name the nurse when wishing to praise her or have her

censured, instead of attempting to give a description of what she looks like.

The name badge also has a number of stars (one, two or three) preceding the name, indicating the rank of the nurse, which aids the visiting physician to know who is in charge of the floor or department, and also fixes the status of the nurses among themselves.

The name badges should also be worn by all interns and members of the resident staff with a designation of the rank, for similar reasons. In fact, we are extending the use of the name badges to all that come in contact with patients or visitors, from the information clerk up to the superintendent.

In the business world, the displaying of the person's name in attendance has long been adapted, and its usefulness proved; but I know of no hospital having used it. In the short time that it has been used at our hospital, we have found it of tremendous value, and wonder how we got along without it.

MORRIS LEFF, M.D., New York.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

FEEDING EAGLE BRAND CONDENSED MILK

To the Editor:—Will you kindly tell me just what are the objectionable features in using Eagle Brand milk as an artificial food for babies? While I have never used it in my practice, as I am under the impression that it is "not a suitable food," I do not know exactly just what are the objectionable features. I do know that the makers advertise this product, with complete directions to the mother, disregarding the rôle the physician should play in infant feeding. The last named feature is certainly objectionable for obvious reasons, yet there must be others of which I am not informed. I have noticed, too, in children who have been fed on Eagle Brand milk, that there seems to be improper dentition and a marked susceptibility to tonsillitis. These observations are only personal.

LESLEY E. WALLACE, M.D., Thebes, Ill.

ANSWER.—Eagle Brand condensed milk is not a suitable food for infants. Similar condensed milk products with various forms of carbohydrates added are advertised as "baby foods" and deserve similar criticism. Eagle Brand condensed milk has the following percentage composition: fat, 8.85; protein, 7.34; milk sugar, 11.61; cane sugar, 42.90; ash, 1.77; water, 27.50. Any dilution of this product with water will result in too high a percentage of carbohydrates, if sufficient protein and salts are furnished to promote proper growth and development. The fact that infants, as a rule, have a relatively high carbohydrate tolerance permits the feeding of such a mixture. The low fat content and fine protein coagulum further favor the high carbohydrate tolerance.

In a certain few carefully selected cases the trained physician may for a short period find advantage in using such a product. However, even in these cases the indications may be as well, or possibly better, met by other rations. For the laity and as a routine for physicians not interested in infant feeding, it is not to be recommended.

The literature furnished by the Borden Company is not to be accepted as in agreement with the general feeding procedures of our medical centers. In a booklet, "The Summing Up of an Important Subject," which is offered to physicians in the hope that they will give "a thorough trial of Eagle Brand condensed milk as a complete, efficient and sufficient food for the bottle-fed baby," one finds the following:

3d day to 3d week, 10 feedings 2 oz. each in 24 hours.
3d week to 5th week, 9 feedings 2 oz. each in 24 hours.
5th week to 3d month, 8 feedings 2½ oz. each in 24 hours.
3d month to 5th month, 7 feedings 3 oz. each in 24 hours.
5th month to 9th month, 6 feedings 3 oz. each in 24 hours.

In the same table (which is offered as "a guide for physicians") during the period from 4 months to 9 months, 30 teaspoonfuls of Eagle Brand diluted with water are advertised for a day's feeding. From the percentage composition given above this would represent approximately: fat, 10.62 Gm.; protein, 8.80 Gm.; carbohydrate, 65.41 Gm.

To meet the average infant's daily requirements for metabolism and proper growth when fed on cow's milk mixtures, approximately 1.5 Gm. of protein, from 1.5 to 2 Gm. of fat and from 4 to 6 Gm. of carbohydrate are required for each pound of body weight. At the minimum for the foregoing ages, 4 months, the average infant should weigh 15 pounds (7 Kg.). This would give (from the 30 teaspoonfuls of Eagle Brand advised in the above mentioned table): fat, 0.70 Gm. per pound body weight; protein, 0.58 Gm.; carbohydrate, 4.36 Gm. Obviously, as the weight increases, which it should during this four months period, these figures will be still further diminished, so that an infant of 6 months, which should weigh as an average 17 pounds (7.7 Kg.) will receive: fat, 0.62 Gm. per pound of body weight; protein, 0.51 Gm.; carbohydrate, 3.84 Gm. One should expect an infant to fail to make proper development on such feedings.

Infants fed on Eagle Brand are usually of two types: One group, showing evidence of overfeeding with carbohydrate and insufficient fat, protein and salts, are usually plump, round and overweight. They are the ones pointed out with pride by the uninformed. However, their flesh is soft and flabby, and the weight does not indicate a healthful condition.

Overfeeding with carbohydrate stimulates the storage of the excess in the form of glycogen. Glycogen is one of the important factors in water retention by the tissues. This retained water is responsible to a large degree for the rapid gain in weight. Infants so fed are susceptible to frequent minor nutritional upsets. These may result in a more serious state recognized as marasmus. Acute upsets, frequently with diarrhea, are common. These infants also have an increased susceptibility to infection, which is often a further factor in their rapid change to a serious nutritional disturbance. Water loss is rapid. Anhydremic intoxication is favored unless prompt measures are taken and proper food given.

The second group are undernourished, underdeveloped and frequently rachitic infants. They are "delicate babies" with small bones; they are pale, their flesh feels flabby, and there is little subcutaneous fat. These infants have received quantitatively as well as qualitatively too little food.

The prolonged feeding of sweetened condensed milk offers difficulties to the physician. These difficulties are certainly increased when the feedings are prescribed by the average lay person attempting to follow the only too freely offered literature.

BACILLUS ACIDOPHILUS MILK FOR GASTRIC ULCER

To the Editor:—Can acidophilus milk be used in place of the cream-milk mixture in gastric and duodenal ulcer feedings? This acidophilus milk has from 0.4 to 0.6 organic acid (lactic). Would this be a contra-indication and would organic acid act as an inorganic acid (HCl) in the treatment?

I. W. BACH, M.D., Champaign, Ill.

ANSWER.—The method of production and some of the characteristics of bacillus acidophilus milk are described in New and Nonofficial Remedies, 1926, p. 211. The products most commonly marketed contain only about 2 per cent of fat, though some firms are now preparing bacillus acidophilus milk from whole milk, so that the resulting fluid ready for consumption contains approximately 4 per cent of fat. From the standpoint of dietotherapy of gastric and duodenal ulcers, for which a high content of fat is usually advised because of its inhibitory influence on acid gastric secretion that may irritate the lesion, the acidophilus product cannot be commended. However, cream could be added if the inclusion of more fat were the only factor to be adjusted. A greater objection may be found in the acidity of the bacterially modified milk. This ranges about p_H 4. If this should be regarded within the domain of objectionable acidity, as some clinicians insist, there remains the possibility of neutralizing the acid prior to the feeding of the bacillus acidophilus milk. Neutralization to about p_H 6.5, the range of violet litmus, is suggested. If this is carefully done, the bacteria are not destroyed and will probably remain viable in the intestine.

WATER FROM TANK LINED WITH TAR

To the Editor:—A group of summer cottages have a community water tank. This was recently painted inside with tar to prevent leaking, with the result that the water has a strong odor and taste of tar, and contains particles of tar. Is this water dangerous to health? It is supposed to be used for drinking, cooking and bathing purposes.

E. B. PFEFFERKORN, M.D., Kimberly, Wis.

ANSWER.—While an odor and taste of tar may be disagreeable, there is no reason to believe that water from such a tank is dangerous to health.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

AMERICAN BOARD OF OTOLARYNGOLOGY. Colorado: Denver, Sept. 13. Sec., Dr. H. W. Loeb, 1402 So. Grand Blvd., St. Louis, Mo.

NEW HAMPSHIRE: Concord, Sept. 9-10. Sec., Dr. Charles Duncan, Concord.

NEW YORK: Albany, Buffalo, New York and Syracuse, Sept. 20-23. Chief, Professional Exams. Bureau, Mr. Herbert J. Hamilton, State Education Building, Albany.

OKLAHOMA: Oklahoma City, Sept. 14-15. Sec., Dr. J. M. Byrum, Shawnee.

WISCONSIN: Basic Science Board, Madison, Sept. 18. Sec., Dr. M. F. Guyer, University of Wisconsin, Madison.

Nevada May Examination

Dr. S. L. Lee, secretary of the Nevada Board of Medical Examiners, reports the written examination held at Carson City, May 3-5, 1926. The examination covered 13 subjects and included 100 questions. An average of 75 per cent was required to pass. One candidate took the examination and passed. Seven candidates were licensed by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent
Johns Hopkins University Medical Department		(1917)	96.1

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
College of Physicians and Surgeons, Chicago		(1899)	Illinois
Northwestern University Medical School		(1923)	Illinois
Rush Medical College		(1902) Illinois, (1924)	California
Medical College of Indiana		(1896)	Illinois
Kansas City University of Physicians and Surgeons		(1924)	Colorado
McGill University Faculty of Medicine		(1923)	California

Montana April Examination

Dr. S. A. Cooney, secretary of the Montana Board of Medical Examiners, reports the written examination held at Helena, April 6-8, 1926. The examination covered 10 subjects and included 50 questions. An average of 75 per cent was required to pass. Three candidates were examined, each of whom passed. Two candidates were licensed by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent
Northwestern University Medical School		(1925)	86.9
Rush Medical College		(1925)	82.9
Ohio State University College of Medicine		(1914)	87.3

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
University of Minnesota Medical School		(1912)	Minnesota
Chattanooga Medical College		(1908)	Alabama

Idaho April Examination

Mr. F. A. Jeter, ex officio secretary of the Idaho Medical Examining Board, reports the written examination held at Boise, April 6-7, 1926. The examination covered 13 subjects and included 130 questions. An average of 75 per cent was required to pass. Seven candidates were examined, all of whom passed. Two candidates were licensed by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent
College of Medical Evangelists		(1925)	88.2
University of California Medical School		(1926)	88.7
Loyola University School of Medicine		(1918)	75.6
Rush Medical College		(1913)	86.9
Johns Hopkins University Medical Department		(1924)	88.2
University of Nebraska College of Medicine		(1922)	85.7
University of Cincinnati College of Medicine		(1925)	86.2

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Rush Medical College		(1900)	Washington
University of Buffalo Department of Medicine		(1904)	Utah

Book Notices

MODERN METHODS OF AMPUTATION. By Thomas G. Orr, A.B., M.D., F.A.C.S., Professor of Surgery, University of Kansas. Cloth. Price, $3.50. Pp. 117, with 125 illustrations. St. Louis: C. V. Mosby Company, 1926.

This monograph is a practical presentation of modern methods of amputation, brief and concise, yet rendering available to the surgeon who only occasionally is called on to do an amputation the essential facts with which he should be familiar in order to obtain good functional results. The author properly places great emphasis on function, and points out the various elements that result in a good functional stump. These include not only the proper formation of the skin flaps but also care of the nerves, blocking them with alcohol to prevent neuroma formation, and dividing them high up so that they will be away from the scar; and the employment of Bunge's aperiosteal method of treating the bone end, which consists in removing from the end of the bone the terminal 0.5 to 1 cm. of periosteum and curetting out a small quantity of the medulla in order to prevent osteophyte formation. The author fails to include Hirsch's method of after-treatment, but points out and strongly emphasizes the desirability of early fitting an artificial limb, which in some cases may be worn for short intervals even before healing is complete. This is particularly desirable in the lower extremities. He includes the several valuable drawings that appeared during the war in the *Military Surgeon*. Among these may be mentioned that showing the method of skin traction with modified Thomas splint, which is of great value in avoiding further shorting in "guillotine amputations": the drawing showing locations of choice for amputation in the upper extremity; the one showing locations of choice for the lower extremity, and those showing how to construct a plaster peg leg or pylon, a simple, cheap and practical artificial limb which can be worn with advantage until such time as a permanent prosthesis can be supplied. Usually this is not until after shrinking of the stump has occurred, which requires several months. The author has omitted the history of amputation and has believed it undesirable to include many of the methods that have for years been handed down in amputation literature. The chapters on cinematiplastic amputations and artificial limbs present the subjects briefly. The author believes that the former is still in the experimental stage, and points out that it would require a volume in itself to discuss the latter thoroughly. He emphasizes the fact that a surgeon cannot consider an amputation completed until the patient is fitted, if possible, with an artificial appliance. The work does not add anything new to our knowledge of the subject, but renders available in a convenient form the facts which every operator should be familiar with before attempting to perform amputations.

LE TERRAIN HÉRÉDO-SYPHILITIQUE. Aperçu de pathologie générale et de clinique infantile. Par V. Hutinel, Professeur honoraire de clinique médicale infantile. Paper. Price, 30 francs. Pp. 455. Paris: Masson & Cie, 1926.

Hutinel has viewed the subject of inherited syphilis from a new and illuminating angle. He has chosen to discuss the soil prepared in the child born with syphilis as the best method of interpreting the variegated forms, bizarre lesions, and frequently perplexing manifestations of this type of infection. He discusses the transmission of the infection by way of the placenta, the various possibilities after the product of conception has been infected, and the manifestations of the still-born and live-born infant by systems. Before proceeding with his theme, he lays down several principles of syphilitic behavior, emphasizing the tendency toward sclerosis and the possibility of long latent periods with reawakening by reason of nonspecific infections or injuries. As an example of its influence in modifying other disease processes in the affected child, he describes the exaggerated responses to ordinary insults. For instance, slight or repeated trauma produces lesions not seen in the healthy subject. Repeated pulmonary

infections following simple bronchitis may result in pulmonary sclerosis, dilatation of the bronchi and pleural thickening. The tendency for rendering selected organs or tissues susceptible to other diseases is illustrated by the disproportionately marked occurrences of tuberculous meningitis in syphilitic children. Further, he discusses the late manifestations of inherited syphilis by systems.

There still remains a large field of syphilitic infection which is included in the term "indirect consequences." This designates the various types of dystrophies, less evidently the effect of the spirochete, and functional disturbances produced indirectly in various organs. More pertinent is the fact that these dystrophies may be inherited like other somatic elements and may even skip a generation. In the case of glandular disturbances there may not be a specific disorder but simply a glandular debility which is transmitted. This explains the occurrences of cretinism in a child and exophthalmic goiter in the mother. In elaborating the endocrine disturbances produced directly or indirectly by the infection, Hutinel virtually presents a contribution to endocrine pathology. Practical facts on stigmas, signs and treatment of inherited syphilis are included. The stigmas and signs are classified into positive, probable and possible findings and further divided into three age groups, from birth to 4 months of age, from 4 months to 3 years, and from 4 years until puberty.

Hutinel particularly emphasizes the behavior of inherited syphilis as a diathesis. He states that it is not a question of dystrophy here but something larger, vague and less easy to define, a morbid temperament dominating the constitution of a person and stamping its mark on all his affections. In view of the peculiar characteristics of inherited syphilis, its duration, its latent periods, its tendency to sensitize certain organs to diseases, its tendency to sclerosis and destruction of elastic tissue, its functional insufficiencies not only glandular but visceral and nervous, its nutritional disturbances, its hereditary transmission, and the modifications due to treatment, it is apparent that the organism infected by the spirochete has become a special soil. The constitution produced is comparable to a diathesis. "Does not this picture," he asks, "constitute in the affected individual a veritable morbid terrain on whose soil may develop affections widely separated in appearance but related by their indisputable parentage?"

It is difficult to bring iron-clad proof to bear on the diagnosis of syphilis in particular individuals belonging to family groups with syphilitic infection. Therefore, this conception of syphilis as a soil polluter yielding a luxuriant if rank and heterogeneous flora will not appeal to the precise, plodding scientist accustomed to staggering statistics and curves with complicated ordinates and abscissas. The more myopic student sees only specific signs and symptoms alined in a single track proceeding to a rule of thumb diagnosis. The more mature will embrace the broader view of the anatomic and functional pathologic changes produced by syphilitic infection which throws into relief specific lesions, tissue susceptibilities, dystrophies, diatheses, endocrine disturbances, and the abnormal course of nonsyphilitic diseases or trauma. The clinician who has studied syphilis from the standpoint of the family as a unit rather than the individual patient will nod assent to Hutinel's brief. He has seen the limitations of the Wassermann test, the sine qua non of diagnosis to the casual clinician. He has seen Hutchinson's teeth, other stigmas and dystrophies in patients with a negative test belonging to a family of syphilitic members. He has observed a positive Wassermann test become negative in succeeding years without antisyphilitic treatment. He has seen bronchopneumonia with little or no fever become subacute, prolong itself, and recur several times over a period of a year with a one plus Wassermann reaction in one child with syphilitic stigmas, and atypical pneumonia with delayed resolution and a two plus Wassermann reaction in a puny sister. To corroborate further the significance of the stigmas of the one child, the deficient nutrition of the other, the delayed healing and modification of the disease processes in both, and their weak Wassermann reactions, the mother presents typical stigmas of inherited syphilis. The experienced clinician has seen children who are merely dwarfed, exhibiting a general dystrophy, with a four plus Wassermann reaction. Material like this can be multiplied in any syphilis clinic. The widespread and often obscure occurrences of this disease have impressed a prominent medical editor with the opinion that the universal administration of antisyphilitic treatment in a given controlled community would yield surprising results. The ramifications of syphilitic infection are wide. Inherited syphilis has a more profound effect than objective signs and symptoms.

Hutinel does not argue. He neutrally presents his material. It dawns on the interested reader that important chapters of this book are unexpressed pleas for the open mind as an approach to a real understanding of the peculiar manifestations of inherited syphilis both in the individual and in the family.

TAYLOR'S PRACTICE OF MEDICINE. By E. P. Poulton, M.A., M.D., F.R.C.P., Physician to Guy's Hospital. With the assistance of C. Putnam Symonds, M.A., M.D., F.R.C.P., Assistant Physician for Nervous Diseases, Guy's Hospital, and H. W. Barber, M.A., M.B., F.R.C.P., Physician in Charge of Skin Department, Guy's Hospital. Thirteenth edition. Cloth. Price, $9. Pp. 1063, with 141 illustrations. Philadelphia: P. Blakiston's Son & Co., 1926.

The first edition of this notable English practice of medicine appeared in 1890, and new editions have been received regularly at intervals of three or four years since that time. The continued popularity would seem to indicate that the book meets a real need. It follows the usual form of such volumes, taking up each of the conditions concerned, beginning with the cause and covering all the various aspects. In their preface, the authors call attention to new articles on conditions which have come to light since the issuing of the previous edition, and to many additions in other portions of the volume. It is interesting to note that the term "neuralgia" has been eliminated, and the conditions concerned transferred to the sections on neuritis and fibrositis. The authors supply a bibliography. They also call attention to the fact that advances in roentgenology have made necessary the inclusion of more roentgenograms for the information of students who receive insufficient instruction on this topic in the medical curriculum. The plates are printed on specially coated paper and are exceedingly instructive.

BERGEY'S MANUAL OF DETERMINATIVE BACTERIOLOGY. A Key for the Identification of Organisms of the Class Schizomycetes. By David H. Bergey, University of Pennsylvania. Assisted by a committee of the Society of American Bacteriologists, Francis C. Harrison, Robert S. Breed, Bernard W. Hammer, and Frank M. Huntoon. Second edition. Cloth. Price, $5.50. Pp. 462. Baltimore: Williams & Wilkins Company, 1925.

This edition makes its appearance two years after the first, with twenty additional pages. Four generic terms have been changed and two new genera added. This edition retains unchanged the merits and defects of the first. Physicians are not likely to find it of great value, and the large number of generally unfamiliar generic designations are likely to add to the confusion that has long existed in bacterial nomenclature. In details there is much to be done before the book can be regarded as very satisfactory. The name *Hemophilus conjunctivitidis* is still retained for an organism that is so much like Pfeiffer's influenza bacillus that it is regarded by many workers as identical. The name *Streptococcus scarlatinae* is used, the sole description of this organism being: "Morphology and cultural characters similar to those of *Streptococcus pyogenes*. Habitat: found commonly in the throat of scarlet fever patients." This is not very helpful.

MALIGNANT DISEASE OF THE TESTICLE: Its Pathology, Diagnosis, and Treatment. By Harold R. Dew, M.B., B.S., F.R.C.S., Honorary Surgeon to Out-Patients, Melbourne Hospital. Cloth. Price, $7 net. Pp. 168, with 52 illustrations. New York: Paul B. Hoeber, Inc., 1926.

This pamphlet contains a complete presentation of the subject indicated in the title, based on a discriminating perusal of the literature and the study of the cases that came under the author's personal observation. He takes a decided stand against the traditional loose classification of tumors of the testis, simply based on clinical appearances. He insists that a proper denomination must be based on the histogenic aspect and microscopic investigation. He includes, therefore, teratomas with the subdivision of dermoids, the sarcomas,

carcinomas, and mixed tumors. The author recommends minute investigation of very early testicular tumors in order to furnish additional information concerning causation. While infectious processes do not seem to be of causative dignity, as a rule, two of his own cases make the author believe that this item cannot be absolutely excluded. These two cases and observations of Monod and Terillon permit the warning that in any case of epididymo-orchitis not acting in the orthodox manner, a malignant condition should be suspected. Dr. Dew recommends radical operation, including the removal of the contiguous lymphatic appendages, and outlines the operative procedure. For postoperative treatment. he advises radiotherapy and the administration of Coley's serum. The numerous illustrations are well chosen and instructive.

MENTAL INVALIDS. Being the Morison lectures delivered before the Royal College of Physicians of Edinburgh in June, 1925. By C. C. Easterbrook, M.A., M.D., F.R.C.P.E., Physician-Superintendent, Crichton Royal, Dumfries. Cloth. Price, 5 shillings net. Pp. 86. Edinburgh: Oliver & Boyd, 1925.

This series of three lectures, reprinted from the *Edinburgh Medical Journal*, reviews in a simple manner the subject of mental disorders in general without discussing the various types. The first lecture deals with mind as the highest level of integration of the organism, the lower levels being the vegetative and sensorimotor systems. Excellent use is made of the newer conceptions of psychology, and the material is presented simply and conservatively, though necessarily briefly. The later lectures are devoted to methods of examination of patients, and the causes, classification and general treatment of mental disease which the author has found of value in his thirty years' experience in psychiatric work. These on the whole are sound, but offer little that will not be found in any modern textbook on psychiatry. The nomenclature employed is different in many respects from that in common use in the United States and would be confusing to students, a drawback that is not compensated for by a sufficiently marked superiority in other respects, even though the book is fundamentally good.

WUNDERHEILUNGEN UND ÄRZTLICH SCHUTZPATRONE IN DER BILDENDEN KUNST. Von Dr. Oskar Rosenthal. Boards. Price, 24 marks. Pp. 42, with 102 illustrations. Leipsic: F. C. W. Vogel, 1925.

In all times men have had their miracles of healing, the performances of charlatans and the legends of faith. The volume prepared by Dr. Rosenthal contains facsimiles of a hundred paintings and sculptures relating to miraculous cures. A beautiful gift volume, and one which at the same time enshrines a permanent record of human credulity.

A CLASSIFICATION OF THE TUMORS OF THE GLIOMA GROUP ON A HISTOGENETIC BASIS WITH A CORRELATED STUDY OF PROGNOSIS. By Percival Bailey and Harvey Cushing. From the Surgical Clinic and Laboratory of the Peter Bent Brigham Hospital and the Laboratory of Surgical Research of the Harvard Medical School. Cloth. Price, $5. Pp. 175, with 108 illustrations. Philadelphia: J. B. Lippincott Company, 1926.

Gliomas of the brain formed 42 per cent of a series of 1,000 intracranial tumors. Though such gliomas are usually regarded as early and inevitably fatal, the authors noted that many patients after incomplete extirpation of a cerebral glioma survived longer than expected, and this fact led them to make a thorough study of the structure and clinical history of 254 gliomas subjected to surgical treatment. Using the best modern methods for the microscopic study of glioma, the authors classify their gliomas according to structure and designate them in harmony with the terminology now used for cerebral histogenesis and histology. No less than thirteen classes of glioma are described, and to what extent this grouping will be accepted generally is of course something that will be determined in the future. From comparison of the structure with the clinical course, it emerges that gliomas composed of less differentiated cells are more active in growth than those made up of more differentiated cells. About half of the gliomas studied were comparatively benign except when inaccessible or so situated as to cause stasis of the arachnoid fluid. The survival of the patients varied from a few months to ten years or more, and the length of the survival period corresponded closely to the increasing differentiation of the glioma cells. The book is an important contribution to our knowledge of cerebral glioma, its life history, prognosis and treatment. It is a choice by-product of surgical work fully organized in the interest of investigation.

THE ASPERGILLI. By Charles Thom and Margaret B. Church of the Microbiological Laboratory, Bureau of Chemistry, United States Department of Agriculture. Cloth. Price, $5. Pp. 272, with illustrations. Baltimore: Williams & Wilkins Company, 1926.

This book is chiefly devoted to a discussion of the different kinds of aspergilli, their nomenclature, classification and general diagnostic characters. As stated in the introduction, the treatise is primarily taxonomic. No worker concerned with this group can afford to ignore this comprehensive and valuable compilation. The chapter on aspergilli and animal disease is not very satisfactory, probably because much of the evidence for the etiologic relation of these molds with animal disease is itself inconclusive. The unconvincing and confusing nature of much of the available material is reflected in some of the authors' statements. For example, in discussing the possible effect of moldy food on health, the authors state (p. 84) that "there exist nevertheless enough positive results such as the feeding of grain molded by *A. maydis* (Quevedo) to support the advice to exclude moldy products from human and animal consumption"; while on page 89 a summary of Quevedo's work is concluded with the statement, "The organism has not since been identified or studied in the light of more recent researches of forage poisoning. Until such repetition is possible the results must now be regarded as questionable." Positive results on page 84 become questionable results on page 89. The book is excellently printed. There is an elaborate synoptical key, a good index, and 127 bibliographic references.

Books Received

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for more extensive review in the interests of our readers and as space permits.

PRAKTIKUM DER PHYSIOLOGISCHEN CHEMIE. Von Peter Rona. Erster Teil: Fermentmethoden. Paper. Price, 15 marks. Pp. 331, with 73 illustrations. Berlin: Julius Springer, 1926.

A handbook of physiologic chemistry involving ferment methods.

RECTOSCOPIE. SIGMOIDOSCOPIE: Traité d'endoscopie recto-colique. Par le Dr. R. Bensaude, médecin de l'hôpital Saint-Antoine. Second edition. Paper. Price, 100 fr. Pp. 178, with 214 illustrations. Paris: Masson et Cie, 1926.

Beautiful atlas of things seen by the methods concerned.

THE SECRETION OF THE URINE. By Arthur R. Cushny, M.A., M.D., LL.D. Second edition. Cloth. Price, $5.50. Pp. 283, with 39 illustrations. New York: Longmans, Green & Co., Ltd., 1926.

New edition of an exceptional thesis by recognized authority.

THREE MEN DISCUSS RELATIVITY. By J. W. N. Sullivan. Cloth. Price, $2.50 net. Pp. 249. New York: Alfred A. Knopf, 1926.

A simple discussion of an involved hypothesis by the dialogue method.

TEXT-BOOK OF MATERIA MEDICA FOR NURSES. Compiled by Lavinia L. Dock, R.N., and Jennie C. Quimby, R.N. Eighth edition. Cloth. Price, $2.25. Pp. 317. New York: G. P. Putnam's Sons, 1926.

If nurses need to know these things, here they are.

ZUR KENNTNIS DER PSYCHISCHEN RESIDUÄRZUSTÄNDE NACH ENCEPHALITIS EPIDEMICA BEI KINDERN UND JUGENDLICHEN, INSBESONDERE DER WEITEREN ENTWICKLUNG DIESER FÄLLE. Von Privatdozent Dr. med. et phil. Rudolf Thiele, Assistent der Psychiatrischen u. Nervenklinik der Charité. Paper. Pp. 100. Berlin: S. Karger, 1926.

A DIRECTORY OF SANATORIA, HOSPITALS, DAY CAMPS AND PREVENTORIA FOR THE TREATMENT OF TUBERCULOSIS IN THE UNITED STATES. Compiled by the National Tuberculosis Association. Cloth. Price, $1. Pp. 132. New York: National Tuberculosis Association, 1926.

Miscellany

A DISPLAY OF FAKIRISM

A demonstration of fakirism given at the New Scala Theater by fakir Dr. Tahra Bey, to which physicians were invited, is described by Dr. C. P. Blacker in *Guy's Hospital Gazette*. The performance was said to be in the interests of science and for the benefit of the medical profession. However, an "atmosphere"—in the literal as well as in the metaphorical sense—was created by burning incense in the theater, and at the end of the performance "talismans" that were said to be able to induce prophetic dreams were distributed. No charge was made for seats, and refreshments were provided free. The object of this performance was to demonstrate the extent of the influence which the mind was capable of exerting over the body, especially over the functions of the autonomic system. Dr. Bey made no claim to "supernatural" powers. The phenomena about to be exhibited were natural in the sense that they could be cultivated by any one who was prepared to make the necessary sacrifices and possessed the necessary steadfastness of purpose. The fakir was sympathetic to the point of view of medical science in that he is himself a physician, qualified at Constantinople.

On the stage sat a committee of forty physicians, and a further jury of six persons was invited from the audience. Dr. Tahra Bey then appeared in Oriental costume. He knew no English, but frequently addressed the audience in French. Throughout the whole performance he maintained a perfect equanimity, his self-possession contrasting with the tension of a considerable section of the audience. All his movements were made slowly and with dignity. He seemed to dislike applause, and constantly tried to inhibit it, when it tended to break out, with a little gesture of the hand. He explained that at will he could throw himself into a condition of catalepsy by pressing on the carotids and vagi of each side of his neck. The condition was also assisted by swallowing the tongue, an accomplishment acquired by fakirs at the age of 5 years. There would follow after the catalepsy a condition of "lethargy" in which he would enjoy a complete anesthesia to all painful stimuli, the duration of which would be about eight times the duration of the catalepsy. He stood with head lowered and eyes closed, pressed with his thumbs on each side of his neck. His breathing became deeper, and he began to sway. After about a quarter of a minute, he fell back with a guttural sucking sound into the arms of two assistants, his body in a state of rigid opisthotonos. In this condition he was lifted up and placed on scythes; two parallel with each other and about an inch apart lay underneath the broadest part of his shoulders, and two underneath his heels. These scythes had edges which permitted Dr. Blacker to press his palm on them with considerable force without any danger of cutting the skin, but which nevertheless were distinctly sharp to the touch. On the fakir's abdomen and chest were then placed a block of stone that weighed at least 60 pounds. With a large sledge hammer, an assistant, seemingly with his whole force, struck three very heavy blows on the block of stone. Under the impact, the fakir's body bent like a bow, immediately regaining the rigid opisthotonic position. The fakir was then removed from the scythes, and he gradually regained consciousness.

Dr. Bey then announced that his body was completely and uniformly anesthetic to pain. Without sterilizing them, he thrust two hat pins through each cheek, pulling the skin of the cheek very tight in the process. No blood appeared. With the points of both hat pins emerging from his mouth, he walked among the audience moving the hat pins with his tongue. It occurred to some one present that he might have a hole in each cheek similar to the holes in the ears of women who wear earrings, or that he might previously have anesthetized his cheeks with cocaine and epinephrine. A member of the jury then asked the fakir if he would permit him to transfix him with a hat pin. With complete equanimity the fakir replied, "Avec grand plaisir, ou vous voulez." A hat pin was then thrust through the skin of his forearm. Dr. Bey did not appear to feel it, nor did his arm bleed. The fakir then picked up a large pointed knife, and pulling out very tightly the loose skin immediately above his episternal notch, with deliberate screwing movements he transfixed the fold till the point just emerged on the other side. He said he would perform this experiment twice. The first one would be bloodless. In the second, he would allow himself to bleed a little. On withdrawing the knife after the first incision, a vestige of blood—about a drop—appeared at a larger hole, and was wiped off by one of the jury. From the second transfixion, however, made in the same locality, a small trickle of blood ran down on the fakir's chest. He stated that by the end of the evening, both wounds would have healed. There was then produced a broad surface of wood, shaped like a door, through which about 200 ordinary 6 inch nails had been driven. They were more or less rusty and moderately sharp. The fakir then announced that he would lie down on those nails, and allow his assistant to stand on his chest. This process, he stated, would cause him no pain; "au contraire" he said, "j'éprouve une profonde joie." He then walked to the bed of nails, and with eyes raised, slipped off the white cloth garment that covered his shoulders, so that he was naked to the waist. To the sound of tearing linen he then sat down on the nails, and lay at full length on them. One of his assistants, a man of about 8 stone (50 Kg.), then stepped from a chair on his abdomen, where he stood for about three seconds. The fakir then got up. Across his shoulders were two large white wheals, about an inch apart, caused by the scythes, and his back displayed a pattern where the nails had pressed in his skin. At no point was there any bleeding. Each nail had left an impression with a small blue center around which was a narrow area of white skin, itself surrounded by a broader zone of erythema. Dr. Bey then asked leave to retire for ten minutes, as he said, "Je sens que la sensibilité me retourne." A member of the jury was anxious to see whether the fakir's cornea was anesthetic to cotton wool. His eyes reacted to touch, and the fakir said that he would now feel pain if his body was further injured, though he experienced no pain from the injuries sustained during the period of postcataleptic anesthesia.

The exhibitions that followed consisted of thought reading and burial. They were less convincing than what had preceded. Dr. Blacker concludes that Dr. Tahra Bey can, at will, induce in himself a condition of cataleptic rigidity, and that this state is followed by one of generalized anesthesia to painful stimuli. For a person of normal sensibility, the experience on the bed of nails would surely have been almost unendurable. Though none of the injuries inflicted were severe, there also seemed to be a basis for the fakir's assertion that he is able locally to control his blood pressure. He was willing to allow any member of the audience to transfix him anywhere he wished. Though the subcutaneous tissues of the forearm are not particularly vascular, a small amount of oozing is to be expected from their transfixion, which did not take place.

Cholecystography.—A stone in the cystic duct or in Hartman's pouch, or scarring of the duct, prevents the entrance of the dye into the gallbladder and no shadow is obtained. —Cade, Stanford: Arris and Gale Lecture, *Lancet*, July 3, 1926.

Medicolegal

Liability for Injuries from Forcible Delivery

(Korman v. Hagen (Minn.), 206 N. W. R. 650)

The Supreme Court of Minnesota says that this was an action to recover damages for the benefit of the plaintiff's child, the femur of whose left leg was fractured and whose nerves controlling the muscles of the right arm were lacerated, producing partial paralysis of the arm, by the manual force exerted by the defendant physician in the alleged negligent and premature delivery of the child. According to the defendant, he ascertained by examination that there was a breech presentation, and he resorted to a forcible delivery only when necessary to save the life of the child; but there was testimony contradicting his findings as to the necessity of making a forcible delivery, which carried the issue of negligence to the jury. Within forty-eight hours after the delivery of the child the defendant was dismissed, and other physicians were called.

This court appreciates the unenviable position in which a physician so often is placed. Here was the agony of the patient, the insistence of her husband and her mother-in-law that the defendant do something for her relief, and the unusual and difficult position in which the child was presented, all of which, no doubt, taxed to the utmost both the judgment and the skill of an attending physician. In such a situation, he ought not to be held for a mere error of judgment or for not selecting the best of several approved methods of procedure. And the law so declares. This court also realizes that, when such judgment and skill are to be weighed by a jury in the presence of a small child who must go through life deformed and handicapped through the physician's alleged negligence, and then, as in this case, by a coincidence of circumstances beyond his control, an opportunity is given counsel adroitly to use a call of the physician to another case as a motive for a forced premature delivery, the physician's best efforts will receive scant consideration. While this court may consider this alleged motive flimsy and unwarranted, and the testimony of the plaintiff's witnesses unreliable, in the state of mind they were when the matters occurred, as compared with the time they came coolly to calculate what incidents might be stated that would tell against the defendant, nevertheless it was for the triers of fact to determine the weight and truth of all the testimony. This court does not think that the defendant could be held legally for either the fracture or the nerve injury, if delivery by force was necessary, even though a medical authority asserts that if the bone of a leg of the fetus, in such a presentation as this, is fractured in getting it down, a lack of skill in the art of delivery is indicated. The fact is that fractures do occur in the case of forced deliveries by the ordinarily skilled and careful practitioner.

The jury was instructed that damages could not be awarded for any shortening of the leg resulting from an interference with the defendant's treatment, whereby the apposition of the bones adjusted by him was disturbed, nor for the disability of the arm resulting from the failure of others properly to treat the Erb's paralysis. This might be more favorable to the defendant than the law permits, although *Carpenter* v. *Blake*, 75 N. Y. 12, seems to justify the charge. However, the correctness of that part of the charge was not presented in this appeal, and this court does not pass thereon. Under the evidence and the charge, this court thinks that damages might properly be assessed against the defendant for all the present defects in the leg, for there was no testimony that proper skill and care were not given the fracture by the physicians who succeeded the defendant. As to the paralysis of the arm, the evidence was very unsatisfactory that the defendant was at all to blame for it. Pressure in severe cases of labor, and this was a severe case, might account for it. Excessive force in pulling on the body in order to extricate the head might also produce it. Besides, it appeared that the physician who superseded the defendant discovered the injury in time sufficient to effect a cure by simple treatment, but none was given. With the evidence in this condition, and under the law given, which the jury was bound to follow, no large sum could be assessed against the defendant for the injury to the arm. Nor could a very large amount be awarded for the shortening of the leg, to which the rest of the frame of the body would no doubt in a great measure adjust itself before the child reached maturity. The amount of the verdict rendered is not stated by the court, which holds it excessive and directs the granting of a new trial unless the consent of the plaintiff be given to the reduction of the verdict to $4,000. At the same time it is suggested that there had been two trials, and it would be for the best interests of the parties if there was an end to the controversy.

Member of School Committee as School Physician

(Barrett v. City of Medford (Mass.), 150 N. E. R. 159)

The Supreme Judicial Court of Massachusetts, in rendering a judgment in favor of the defendant city, says that this was an action to recover for services rendered as school physician, or medical inspector, of that city, for eleven months from Sept. 1, 1923. The plaintiff was by the school committee of the city appointed, in 1917, temporary medical inspector for all the schools, and his appointment was made permanent in 1920. After Sept. 1, 1923, he no longer received a salary for his services as medical inspector, which had been $60 a month, owing to the refusal of the mayor to approve the item in the payroll. The plaintiff nevertheless continued to perform the duties of medical inspector until August, 1924. During all this period he was a member of the school committee, elected every three years, but took no part officially as a member of the committee in his appointment by the committee. The court thinks that a school committee, in the absence of a statute permitting it, cannot elect one of themselves to the salaried office of school physician. The duties he is to perform as physician are incompatible with the supervisory duties which as a member of the committee he should exercise over the incumbent of the office of school physician. Consistently he cannot be master and servant.

Exhibition to Jury of Stub of Arm

(Davis, Agent v. Antol (Ky.), 278 S. W. R. 573)

The Court of Appeals of Kentucky holds, in this action to recover damages for personal injuries, that there was no error in permitting plaintiff Antol to exhibit to the jury the stub of his arm that had been injured and amputated. The court says that this was not a death case wherein the suffering of the deceased and the extent of his injuries play no part, but it was a case in which the party suing survived his injuries, and the extent of his injuries and the consequent suffering and permanent reduction of his power to earn money were directly in issue. To enable the jury to pass intelligently on these questions, there was no better or more appropriate evidence than the injured arm itself.

Society Proceedings

COMING MEETINGS

American Academy of Ophthalmology and Otolaryngology, Colorado Springs, Sept. 13-18. Dr. Luther C. Peter, N. E. Cor. Chestnut and 20th Streets, Philadelphia, Secretary.

American College of Physical Therapy, Chicago, Sept. 13-17. Dr. R. W. Fouts, City National Bank Building, Omaha, Neb., Secretary.

American Electrotherapeutic Association, Atlantic City, Sept. 8-11. Dr. Richard Kovacs, 223 E. 68th Street, New York City, Secretary.

Idaho State Medical Association, Sandpoint, Sept. 2-5. Dr. J. N. Davis, Kimberly, Secretary.

Michigan State Medical Society, Lansing, Sept. 14-17. Dr. F. C. Warnshuis, Powers Theatre Building, Grand Rapids, Secretary.

Missouri Valley, Medical Society of the, Council Bluffs, Iowa, Sept. 15-17. Dr. Charles Wood Fassett, 115 East 31st St., Kansas City, Mo., Sec'y.

Wisconsin, State Medical Society of, Madison, Sept. 15-17. Mr. J. G. Crownhart, 153 Oneida Street, Milwaukee, Exec. Secretary.

Current Medical Literature

AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to THE JOURNAL in America for a period of three days. No foreign journals are available prior to 1921, nor domestic prior to 1923. Periodicals published by the American Medical Association are not available for lending, but may be supplied on order. Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested).

Titles marked with an asterisk (*) are abstracted below.

American Journal of Anatomy, Philadelphia

37: 195-416 (May 15) 1926

Occlusion of Esophagus and Trachea in Crocodilia and Snakes. A. M. Reese, Morgantown, W. Va.—p. 195.
Histologic Changes in Testis of Guinea-Pig During Scurvy and Inanition. B. Lindsay and G. Medes, Minneapolis.—p. 213.
Types of Three Great Races of Man. R. B. Bean, University, Va.—p. 237.
*Visceral Anatomy of Healthy Adults. R. O. Moody and R. G. Van Nuys, Berkeley, Calif., and W. E. Chamberlain, San Francisco.—p. 273.
Energy Production and Transformation in Protoplasm. M. T. Burrows, St. Louis.—p. 289.
*Properties of Gonads as Controllers of Somatic and Psychical Characteristics. IX. C. R. Moore, Chicago.—p. 351.

Study of Visceral Anatomy.—Moody and his associates assert that the anatomy of the viscera based on a study of the dead loses much of its value and gives students many wrong concepts of visceral form, position, and relations. The anatomy of the abdominal viscera should be taught as it is found in the living, not as it is found in the dead. To do such teaching and to carry on research, every department of anatomy should have as a minimum equipment a fluoroscope and one instructor trained to use it. Apparatus for taking roentgenograms would add much to the value of the equipment.

Testis Graft Reactions.—Moore has found that whole rat testes persist after transplantation into normal males, castrated males, normal females and spayed females for periods ranging from one to six and one-half months; sixteen testis grafts have been removed from pregnant or littered females. Moore is of the opinion that Steinach's antagonism hypothesis, if retained at all, must be decidedly modified; as originally conceived, Moore considers it useless and contrary to facts. Testes transplanted into the scrotum may carry on spermatogenesis to completion and produce spermatozoa; such completion of germ cell differentiation has occurred in no other location than the scrotum. Since only early stages of spermatogenesis are found in grafts from other localities, for the reason that the cells produced in mitosis escape into the lumen and degenerate instead of persisting and differentiating into spermatozoa, there is added evidence that the scrotum is necessary for spermatozoon formation. This condition finds its explanation in terms of the function of the scrotum as a local temperature regulator for germ cell differentiation in the testis. Persistence of palpable nodules is no criterion of a functional graft.

American Journal of Ophthalmology, Chicago

9: 321-408 (May) 1926

Intracranial Complications of Chronic Suppurative Otitis Media Seen by Ophthalmologist. R. A. Fenton, Portland, Ore.—p. 321.
Trachoma. J. W. May, Kansas City, Kan.—p. 333.
Edematous Anthrax of Face Resulting in Meningitis. F. Krauss and N. O. Spikes, Philadelphia.—p. 337.
Papillitis, Headache and Mental Depression from Osteoma of Septum. O. Wolfe, Marshalltown, Iowa.—p. 340.
Iridectomy with Winged Incision (Luedde) in Glaucoma. J. Green, St. Louis.—p. 342.
Retrobulbar Neuritis Due to Frontal Sinusitis. L. W. Deichler, Philadelphia.—p. 346.
Heterochromic Cyclitis with Cataract Formation. J. S. Plumer, Philadelphia.—p. 349.
Influence of Protein Therapy on Experimental Staphylococci Infection of Rabbits Cornea. B. W. Key, New York.—p. 351.
Chromatic Test for Dominant Eye. J. I. Pascal, New York.—p. 357.
Chancroid of Eyelid. L. F. Appleman and S. S. Greenbaum, Philadelphia.—p. 358.
Forceps for Positive Fixation of Globe. J. M. Patton, Omaha.—p. 360.

American Journal of Physiology, Baltimore

76: 497-725 (May 1) 1926

*Dye Methods for Determining Blood Volume Tested in Vitro. J. Lindhard, Copenhagen.—p. 497.
*XVI. Effect of Epinephrine on Coronary Circulation. C. M. Gruber and S. J. Roberts, St. Louis.—p. 508.
*Relationship of Phosphate and Carbohydrate Metabolism. III. Effect of Glucose on Excretion of Phosphate in Depancreatized Dogs. J. Markowitz, Toronto.—p. 525.
Innervation of Smooth Muscle. IV. Functional Relations Between Lower End of Esophagus and Stomach of Cat. H. O. Veach, Boston.—p. 532.
*Suprarenal Secretion Produced by Asphyxia. B. A. Houssay and E. A. Molinelli, Buenos Aires.—p. 538.
Effect of Nicotine, Cystosine, Lobeline, Coniine, Piperidine and Quaternary Ammonias on Suprarenal Secretion. B. A. Houssay and E. A. Molinelli, Buenos Aires.—p. 551.
Spectrophotometric Determinations of Bilirubin. C. Sheard, E. J. Baldes, F. C. Mann and J. L. Bollman, Rochester, Minn.—p. 577.
Effect of External Temperature on Second Wind. G. E. Berner, C. C. Garrett, D. C. Jones and R. J. Noer, Philadelphia.—p. 586.
*Epilepsy. III. Influence of General Increase or Diminution of Intracranial Pressure on Susceptibility of Animals to Convulsive Seizures. C. A. Elsberg and F. H. Pike, New York.—p. 593.
Study of Vago-Enteric Mechanism by Means of Nicotine. J. E. Thomas and A. Kuntz, St. Louis.—p. 598.
Study of Gastro-Intestinal Motility in Relation to Enteric Nervous System. J. E. Thomas and A. Kuntz, St. Louis.—p. 606.
Nature of Urinary Glucose. W. C. Austin and T. E. Boyd, Chicago.—p. 627.
*Blood Clotting Studies in Hemophilia. C. A. Mills, Cincinnati.—p. 632.
Explanation of Blood Clotting Change Observed in Peptone Shock in Dog. C. A. Mills, Cincinnati.—p. 642.
Manner of Action of Protein Fraction of Tissue Fibrinogen as Blood Anticoagulant. C. A. Mills, Cincinnati.—p. 651.
Studies on Physiology of Reproduction in Birds. XXI. Blood Calcium Changes in Reproductive Cycle. O. Riddle and W. H. Reinhart, Cold Spring Harbor, N. Y.—p. 660.
Rabbit Method of Standardizing Insulin. M. Sahyun and N. R. Blatherwick, Santa Barbara, Calif.—p. 677.
Identity of Muscle Hemoglobin and Blood Hemoglobin. R. P. Kennedy and G. H. Whipple, Rochester, N. Y.—p. 685.
Hemoglobin of Striated Muscle. I. Variations Due to Age and Exercise. G. H. Whipple, Rochester, N. Y.—p. 693.
Id. II. Variations Due to Anemia and Paralysis. G. H. Whipple, Rochester, N. Y.—p. 708.

Determining Blood Volume in Vitro.—A report of test experiments regarding the dye methods for determining the blood volume is given by Lindhard. In all the experiments recorded, vital red has been used. It is shown that bloods from different species behave in a quite different manner. It is shown that dye solution may be added repeatedly to the same sample of blood without any inconvenience; when only a sample of blood is drawn for control before each injection of dye solution, the experiment as well as the calculation is carried out in the usual manner.

Effect of Epinephrine on Circulation.—From experiments with epinephrine on the coronary circulation, Gruber and Roberts conclude that the sympathetic nervous system supplies both vasodilator and vasoconstrictor fibers to the coronary circulation of the heart.

Glucose and Phosphorus Metabolism.—Markowitz found that the administration of glucose to fasting depancreatized dogs that have been deprived of insulin for several days does not cause changes in the phosphorus content of three hour urine fractions similar to those observed in normal animals.

Asphyxia.—Houssay and Molinelli conclude that asphyxia acts on the central nervous system, and the stimulus is transmitted through the splanchnics.

Intracranial Pressure and Epilepsy.—Elsberg and Pike assert that variations in intracranial pressure have a decided effect. It is suggested that the benefit from starvation in the treatment of some cases of epilepsy is due to some extent at least to the decrease in intracranial pressure consequent on the diminution in the fluid intake. Unilateral convulsive seizures—the so-called jacksonian epilepsy—may be due to a considerable degree to localized variations in intracranial pressure.

Blood Clotting in Hemophilia.—Experiments done by Mills show that peptone injection in the dog calls forth a marked increase in the thrombolytic power of the dog's serum (i. e., the antithrombin of Howell). Peptone added to serum in vitro just as markedly reduces the thrombolytic power of normal serum and of serum from peptone plasma. The response of the dog to peptone injection, with the excess

production of bodies capable of uniting with the peptone, seems to be similar to such typical immune reactions as the toxin-antitoxin reaction, except that the time required is only a few minutes.

American Journal of Public Health, Albany, N. Y.

16: 451-555 (May) 1926

Need for Trained Personnel. J. A. Ferrell, New York.—p. 451.
Itinerant Conferences: Standards of Examination. J. H. M. Knox, Jr., Baltimore.—p. 465.
Eliminating Source of Error in Laboratory Diagnosis of Rabies. E. K. Borman, Lexington, Ky.—p. 467.
Why New Mexico Nurses Cooperate in Maternity and Infancy Work. D. R. Anderson, Santa Fe, N. M.—p. 473.
Increase in Cancer Mortality. J. W. Schereschewsky, Boston.—p. 475.
Birth, Stillbirth and Death Registration. S. L. Howard, Springfield, Ill. —p. 478.
Sewage Treatment for Golf Clubs. F. W. Jones and G. B. Gascoigne, Cleveland.—p. 481.
Training Sanitarians in Mexico City. S. Bermudez, Mexico City, Mexico.—p. 491.
Lactose Fermenting Bacteria. F. Berry and L. F. Ey, Columbus, Ohio. —p. 494.
Anaerobes in Sewage. F. E. Greer, Chicago.—p. 500.
Pneumonia from Public Health Viewpoint. C. J. Vaux and H. J. Benz, Pittsburgh.—p. 502.

American Journal of Roentgenology and Radium Therapy, New York

15: 399-496 (May) 1926

Human Pleura Pulmonalis: Relation to Blebs and Bullae of Emphysema. W. S. Miller, Madison, Wis.—p. 399.
Lung Abscess. R. A. Kern, Philadelphia.—p. 407.
Roentgen-Ray Diagnosis of Lung Abscess. H. K. Panccast, Philadelphia. —p. 410.
Bronchoscopic Treatment of Lung Abscess. G. Tucker, Philadelphia. —p. 419.
Surgical Aspects of Lung Abscess. G. P. Muller, Philadelphia.—p. 421.
Hilum in Tuberculosis. A. G. Schnack, Honolulu, T. H.—p. 424.
Use of Iodized Oil (Lipiodol and Iodipin): Roentgen-Ray Diagnosis of Spinal Lesions. E. A. Schmidt, Denver.—p. 431.
Radiation Treatment of Malignant Disease. G. W. Grier, Pittsburgh. —p. 436.

American Journal of Tropical Medicine, Baltimore

6: 167-239 (May) 1926

*Mosquito Species Control of Malaria. S. T. Darling, Baltimore.—p. 167.
Prevalence and Distribution of Yellow Fever Mosquito, Aëdes Aegypti (Linn.), in Venezuela. L. H. Dunn, New York.—p. 181.
*Quartan Malaria in Low Coastal Regions of State of Rio de Janeiro, Brazil. N. C. Davis and M. F. Boyd, New York.—p. 195.
*Isolation and Cultivation of Herpetomonas Muscae-Domesticae. R. W. Glaser, Princeton, N. J.—p. 205.
Common Picture of Sprue, Pernicious Anemia and Combined Degeneration. A. C. Reed and H. A. Wyckoff, San Francisco.—p. 221.

Malaria Control in Java.—Darling points out that a preliminary field survey of a region in which there was very severe endemic malaria in the rice fields of the Tjihoea Vlaagte in Java showed that *A. aconita*, the anopheline carrier of malaria, did not breed in the water of the rice fields that were under cultivation. The selected breeding places were neglected grassy irrigation ditches and grassy sodden rice paddies that were lying fallow. Based on these facts, a notable reduction in the amount of malaria was made by instituting special regulations requiring the people regularly to clean and burn the irrigation ditches and to lay dry their rice fields after harvest, also to regulate the amount of water used for irrigation purposes, avoiding its excessive use.

Malaria in Brazil.—Studies in certain areas within the low, coastal region of the state of Rio de Janeiro, Brazil, have revealed a very small number of infections with *Plasmodium malariae*. The data indicate that the quartan rate probably fluctuates in the same manner as that of the other malaria infections. The persistence of *P. malariae* blood infections during months of low fever incidence has been verified by Davis and Boyd. The geographic distribution of the *P. malariae* infections reveals the presence of definite foci, which consistently produce new cases each year.

Cultivation of Herpetomonas.—A method is described by Glaser whereby a flagellate protozoan *(Herpetomonas muscae-domesticae)*, parasitic in the alimentary tract of adult house flies, can be freed from the intestinal flora and grown indefinitely in pure culture on a medium prepared from full grown silkworms. Additional proof is furnished that the genus *Herpetomonas* is closely related to the genus *Leishmania*.

American Review of Tuberculosis, Baltimore

13: 393-478 (May) 1926

Chemical Composition of Active Principle of Tuberculin. I. Nonprotein Medium Suitable for Production of Tuberculin in Large Quantity. E. R. Long and F. B. Seibert, Chicago.—p. 393.
Id. II. Precipitation with Acetic Acid and Other Acids. E. R. Long and F. B. Seibert, Chicago.—p. 398.
Id. III. Experiments on Dialysis. F. B. Seibert and E. R. Long, Chicago.—p. 404.
Id. IV. Ammonium-Sulphate Precipitation of Proteins of Tuberculin. F. B. Seibert and E. R. Long, Chicago.—p. 408.
Id. V. Effect of Proteolytic Enzymes on Tuberculin Proteins and Activity of Tuberculin. F. B. Seibert, Chicago.—p. 431.
Id. VI. Acid Hydrolysis of Tuberculin. E. R. Long, Chicago.—p. 441.
Id. VII. Evidence That Active Principle Is Protein. E. R. Long and F. B. Seibert, Chicago.—p. 448.
Tuberculosis. VII. Active Principles of Tuberculin Prepared from Nonprotein Substrates. F. Eberson, San Francisco.—p. 454.
Active Immunization of Guinea-Pigs by Tuberculous Urinary Antigens. J. J. Enright, Pittsburgh.—p. 463.
*Bactericidal Action of Ultraviolet Light on Tubercle Bacillus. H. H. Howze, Little Rock, Ark.—p. 470.
*Radio and Tuberculosis Patient. W. H. Rosenau, Colorado Springs. —p. 475.

Bactericidal Action of Ultraviolet Rays on Tubercle Bacillus.—From the results obtained experimentally, it is concluded by Howze that the irradiations of the mercury vapor quartz lamp are bactericidal for the tubercle bacillus after an exposure of five minutes at a distance of 10 inches from the burner. No attempt is made to explain this bactericidal action.

Radio and Tuberculosis Patient.—The indiscriminate and unrestricted use of the radio for the patient affected with tuberculosis in Rosenau's opinion is unwise. The reaction of each individual patient following the use of the radio should be noted. The patients who react unfavorably should not be allowed its use. The patient should be discouraged in the logging of many stations. He should content himself with easily available reception. He should be told to avoid "listening in" to exciting plays and the broadcasting of competitive games in which he is keenly interested. If these precautions are taken, the radio will remain a boon to the sick, and not an unfavorable inhibiting influence to convalescence.

Annals of Clinical Medicine, Baltimore

4: 695-771 (March) 1926

*Splenic Enlargement as Measure of Malaria. S. T. Darling, Baltimore. —p. 695.
*Ephedrine in Treatment of Vascular Hypotension and Bronchial Asthma. T. G. Miller, Philadelphia.—p. 713.
*Smallpox Without Eruption Following Blood Transfusion. J. R. Blalock, Detroit.—p. 722.
*Occurrence of Abnormal Leukocytes in Blood of Patient with Jaundice (Infectious Mononucleosis—Glandular Fever). R. D. Mackey and E. G. Wakefield, Washington, D. C.—p. 727.
Relation of Public to Medicine. W. Cunningham, Platteville, Wis. —p. 731.
*Free Ball Thrombus Associated with Mitral Stenosis. E. B. Potter, Ann Arbor, Mich.—p. 736.
*Chronic Endocarditis Associated with Defects of Septum Ventriculorum. C. A. McIntosh, Ann Arbor, Mich.—p. 748.
*Torula Meningitis. F. B. Lynch, Jr., and E. Rose, Philadelphia.—p. 755.

Splenic Enlargement as Measure of Malaria.—In regions in which malaria is endemic, as in certain oriental countries, and when the anemia is oftentimes very severe, an interesting correspondence was observed by Darling between the size of the spleen and the amount of anemia. In these highly endemic regions the spleens often become enormous, very frequently extending to the umbilicus and sometimes into the pelvis; this condition is found in adults as well as in children. In one group of oriental people examined some years ago in a district in Java, an almost perfect correspondence was found to exist between the size of the spleen and the degree of anemia when the average hemoglobin of the spleen group was considered. The parallelism between the increments in spleen mass or volume and the degree of anemia is very striking.

Ephedrine in Treatment of Hypotension and Asthma.—Experimental evidence is reviewed by Miller, which indicates that ephedrine has sympathomimetic actions similar to epinephrine; in particular, it raises blood pressure and dilates the bronchial muscle. Clinical evidence is presented to show

that it is effective in overcoming congestion of the nasal mucous membrane, in elevating the lowered blood pressure of certain disease states and in relaxing the bronchial spasm responsible for asthma. Its chief advantages over epinephrine lie in its more permanent action and in the fact that it can be administered effectively by mouth. Its practical value in the management of patients with vascular hypotension is still undetermined, but the work here reported would seem to indicate definite value in congestive nasal conditions and in bronchial asthma.

Smallpox Following Blood Transfusion.—Blalock reports a case of advanced pernicious anemia with mental changes and a rightsided hemiplegia in which a blood transfusion was done by the citrate method. There was no immediate reaction. Two days later it was learned that the donor had developed the eruption of smallpox on the day following the transfusion. He had a mild type of the discrete pustular form of the disease and made an uneventful recovery. No history giving a clue as to the source of contagion could be obtained. He had never been vaccinated. The recipient showed a successful vaccination scar on his left arm. The date of vaccination could not be learned because of his mental condition. He was again vaccinated on the third day following transfusion. On admission, he had been vaccinated as a routine. Both vaccinations were unsuccessful. His progress was without change until the tenth day following transfusion. On this day he complained of headache. Pain on swallowing, epistaxis and fever were noted in the course of the next three days. On the fourth day, a rash appeared on his chest, in his axillae, over his cheeks and abdomen. It was erythematous, for the most part confluent and morbilliform in type, giving to the skin an indistinct blotchy appearance. The color faded on pressure. There was no adenitis, coryza, or lacrimation. No Koplik's spots could be found. The rash began to fade on the sixteenth day, and on the seventeenth had disappeared, followed by no desquamation.

Glandular Fever with Obstructive Jaundice.—A case of glandular fever with obstructive jaundice is reported by Mackey and Wakefield. In view of the fact that enlargement of abdominal lymph nodes has been observed many times in glandular fever, the authors think that the most probable theory as to the cause of jaundice in this case is lymph node enlargement, which occluded the common duct. The most probable anatomic location of the obstruction would be swelling of the lymph nodes in Calot's triangle.

Free Ball Thrombus with Mitral Stenosis.—Many features in the case reported by Potter closely correspond to those noted in previously reported cases: (1) "Buttonhole" mitral stenosis as the underlying lesion; (2) location of the thrombus in the left auricle, as in all cases reported, except one; (3) embolism with pulmonary infarction; (4) sensory disturbances and gangrene of the extremities, and (5) occurrence of the condition in a female. It is of special interest, however, that in this case two thrombi were found in the left auricle, one free and the other firmly attached by a pedicle to the wall of the auricular appendage.

Carcinoma of Rectum: Intestinal Obstruction; Chronic Endocarditis; Defective Septum Ventriculorum.—McIntosh's patient presented symptoms of chronic intestinal obstruction. An obstructing, inoperable carcinoma of the rectum was discovered. A left inguinal colostomy was performed. The patient died on the eighth day postoperative of general peritonitis. Her condition being an urgent surgical one, a detailed history of cardiac symptoms was not recorded, save to note that there was no advanced heart disease. It was stated, however, that she had had attacks of palpitation, accompanied by a slight degree of dyspnea, during the last few years. At necropsy, the heart was found rather small, of normal shape, and the left ventricle was in firm rigor. The superior and inferior venae cavae entered by a common orifice. The cavity was crossed by an aberrant strand of endocardium which extended from the anterior portion of the interauricular septum to the anterior wall at the attachment of the auricular appendage. The foramen ovale was functionally closed by the valvula foraminis ovalis, but anatomically a large orifice could be demonstrated admitting the index finger. The right ventricle was much smaller than usual. The ventricular space was in a large measure consumed by relatively large muscular columns and trabeculae. Arising from the conus arteriosus, immediately posterior to the moderator band, was a greatly hypertrophied chorda tendinea which became branched at its summit and was attached to the infundibular cup of the tricuspid valve. The anomaly of interest was situated about 1 cm. beneath the right anterior aortic cusp and just anterior to the undefended space. Here were found two small foramina. One opening led into a patent lumen in the substance of the enlarged chorda tendinea originating from the conus in the right ventricle. The probe finally passed into the right side of the heart through a small orifice situated on the anterior surface of this funnel shaped structure. The other opening ended blindly beneath a thickened endocardium immediately beneath the short infundibular cusp of the tricuspid valve.

Torula Meningitis.—A seventeenth case of infection of the central nervous system by *Torula histolytica* is reported by Lynch and Rose, and the morphology and cultural characteristics of the organism described. The classification of yeasts is briefly analyzed, and the reasons given for retaining the name *Torula*.

Archives of Internal Medicine, Chicago

37: 597-732 (May 15) 1926

*Blood Pressure in Women as Influenced by Sex Organs. W. C. Alvarez and A. Zimmermann, San Francisco.—p. 597.
Exophthalmic Goiter: Roentgenotherapy. B. J. Sanger, New York.—p. 627.
*Occupational Disease Among Zinc Workers. C. P. McCord and A. Friedlander, Cincinnati.—p. 641.
*Blood in Epidemic Smallpox. K. Ikeda, Minneapolis.—p. 660.
*Gastric Secretion in Diabetes Mellitus. B. D. Bowen and A. H. Aaron, Buffalo.—p. 674.
*Hemoglobin, Color Index, Saturation Index and Volume Index Standards. E. E. Osgood, Portland, Ore.—p. 685.
*Estimation of Transverse Cardiac Diameter. F. J. Hodges and J. A. E. Eyster, Madison, Wis.—p. 707.
Effect of Lead and Radium on Mature and Immature Erythrocytes. H. E. Pearse, Boston.—p. 715.
Antepartum and Postpartum Blood Changes in Young Mothers. I. Handelman, A. Rose and C. P. Sherwin, New York.—p. 725.

Blood Pressure in Women.—The evidence presented by Alvarez and Zimmermann supports the theory that the "essential" type of hypertension is a bodily peculiarity, inherited equally by girls and boys, but ordinarily repressed in women before the menopause by the ovarian or other related secretions. When the pelvic organs are subnormal, the disease may appear in women as early as it does in men.

Occupational Disease Among Zinc Workers.—In a small galvanizing plant McCord and Friedlander have detected widespread gastro-intestinal conditions, varying from gastroenteritis, in the younger workers, to well established gastric and duodenal ulcers among workers employed for a long time. Twelve out of fifteen workers employed seven years or longer have presented severe gastro-intestinal lesions. In a second plant, in which all employees are new at this work (less than six years) and in which the general work conditions are better and exposure to trade process fumes is much less, no cases of this gastro-intestinal disease have been found.

Blood in Epidemic Smallpox.—Examination made by Ikeda of the blood in approximately 200 cases of smallpox, representing all forms and stages of the disease during an epidemic, shows characteristic findings which, if properly interpreted, are of definite diagnostic and prognostic value. The earlier the rise of the platelets, the sooner the approach of the desiccation period, prognosticating a shorter course of the disease. A definite leukopenia during the maculopapular stages indicates, as a rule, a mild discrete form. A progressive leukocytosis with an early high polynucleosis predicts a severe form. The higher the values, the more probable the fatal outcome. The early appearance of normoblasts, basophilic stippling and polychromatophilia, without evident anemia, are unfavorable signs. It invariably means the

purpuric form of smallpox. Condensation and fragmentation of mature leukocytes are found only in the purpuric form of smallpox. They appear comparatively early in the primary type of purpuric smallpox and are usually accompanied by pathologic normoblasts, basophilic stippling and polychromatophilia, without visible anemia. A rapidly progressive, absolute lymphocytosis is a constant characteristic of purpuric smallpox. Scarlatinal and other exanthems, infectious purpura and toxic rash with petechiae, can be definitely differentiated from the purpuric form of smallpox during its erythematous stage by these blood findings.

Gastric Secretion in Diabetes Mellitus.—Fractional gastric analyses have been made by Bowen and Aaron on sixty-nine diabetic patients. A complete absence of free hydrochloric acid was found in twenty patients. Of these, ten had diarrhea while no cases of diarrhea were found in which the patients had free hydrochloric acid. The artificial use of dilute hydrochloric acid did not appear to affect the diarrhea in four patients, three of whom died, one having marked steatorrhea. In the other six patients, the diarrhea stopped coincidently with the use of the acid, but did not reappear when the acid was withdrawn. The patients, however, in all instances took the acid over a period of several months. There was no reappearance of free hydrochloric acid in one case that was subsequently studied. Of the twenty patients who had achlorhydria, the average duration of the diabetes was 6.5 years, and diabetes was severe in every case at the time of observation. The duration in the normal group was 2.8 years, while the gastric subacidity group held the middle position, with an average of 3.6 years. There was no essential difference in the average ages of the patients in the three groups. In an analysis of the complication factors in each case, it does not appear that the conditions that are known to produce achlorhydria in nondiabetic subjects are more prevalent in the achlorhydria group. From the results of these observations, it seems justifiable to the authors to presume that achlorhydria may be the result of long standing or severe diabetes.

Determination of Standards for Normal Blood.—The blood of 137 men from 19 to 30 years of age has been studied by Osgood for the purpose of establishing standards for the normal averages and determining the range of variation in normal findings. The term hemoglobin coefficient is proposed as a substitute for "the amount of hemoglobin in grams per hundred cubic centimeters of blood calculated to a red cell count of 5 million per cubic millimeter." This is the figure used as 100 per cent hemoglobin in calculating color indexes. Similarly, the term volume coefficient is proposed to take the place of "the volume of packed red cells in cubic centimeters in 100 cc. of blood calculated to a red cell count of 5 million per cubic millimeter." This is the figure used as 100 per cent cell volume indexes. Osgood proposes a method of calculating saturation indexes by dividing the color index by the volume index. A tentative classification of anemias on the basis color index, volume index and saturation index is suggested.

Transverse Cardiac Diameter.—New tables are presented by Hodges and Eyster for the estimation of the normal transverse cardiac diameter in man. These tables are based on the following prediction formula: Transverse diameter in millimeters equals age 0.1094 — stature 0.1941 + weight 0.8179 + the constant 95.8625.

Archives of Ophthalmology, New Rochelle, N. Y.

55: 213-318 (May) 1926

New Technic for Expression of Cataractous Lens in Capsule. H. Smith, New Eltham, England.—p. 213.
Case of Metastatic Intra-Ocular Mycosis. F. H. Verhoeff, Boston.—p. 225.
Case of B. Tularense (Squirrel Plague) Conjunctivitis. D. T. Vail, Jr., Cincinnati.—p. 235.
Acuity Apparatus with Attachments for Testing Light and Color Sense and for Color Mixing. C. E. Ferree and G. Rand, Bryn Mawr, Pa. —p. 245.
Late Results of Intracapsular Cataract Extraction. A. Knapp, New York. —p. 257.
Pupilloscopic Findings in Lesions in Different Parts of Reflex Arc. F. H. Adler, Philadelphia.—p. 262.

Archives of Otolaryngology, Chicago

3: 403-480 (May) 1926

*Lipiodol in Diagnosis of Bronchopulmonary Lesions by Bronchoscopic Method. D. H. Ballon, Montreal.—p. 403.
Bronchoscopic Removal of Safety-Pin. C. Jackson, Philadelphia.—p. 423.
Labyrinthine Tonus and Variations in Intracranial Pressure. L. M. Hubby, New York.—p. 429.
Mastoiditis Without Apparent Otitis Media: Two Cases. F. K. Hansel, St. Louis.—p. 433.
Diathermic Studies on Eye and Ear. A. R. Hollender and M. H. Cottle, Chicago.—p. 438.
*Acute Mastoiditis, Lateral Sinus Thrombosis and Pyemia. S. D. Greenfield, New York.—p. 444.
Fibro-Adenolipoma of Tonsil. L. J. Friend, Merrill, Wis.—p. 448.
Accidental Rupture of Ethmoid Roof with Subsequent Recovery. J. G. Hunt, London, Ont.—p. 452.
New Instrument for Treatment of Chronic Catarrhal Otitis Media with Superheated Air. J. Guttman, New York.—p. 453.
*Tracheo-Esophageal Fistula Due to Carcinoma of Esophagus. M. C. Myerson, New York.—p. 456.
Tumors of Nose and Throat. G. B. New, Rochester, Minn.—p. 461.

Lipiodol in Diagnosis of Bronchopulmonary Lesions.—The bronchoscopic method of injecting lipiodol, Ballon states, is safer and more satisfactory than any other method by virtue of the added diagnostic advantage from having observed by direct vision the actual condition in the bronchi and lungs. It is a valuable diagnostic aid in cases of bronchial stenosis, lung abscess, bronchiectasis and pulmonary tuberculosis. The thoracic surgeon has a useful means of deciding whether or not to operate, the extent of operative intervention, and the prognosis. New growths of the bronchus must be diagnosed bronchoscopically. Lipiodol is only an aid. Studies of the act of coughing illustrate how, during a spasm of coughing, the lipiodol or infected material could be projected from the lower lobes and disseminated throughout the entire lung even at the apexes.

Lateral Sinus Infection with Joint Metastases.—Greenfield's case bears out a well known clinical observation that patients with lateral sinus infection in which metastases to the joints and superficial tissues occur are more apt to survive. His patient had involvement of the left hip joint, the left ankle joint and the soft tissues about the right femur.

Tracheo-Esophageal Fistula: Vinson's Sign.—In the case of carcinoma of the esophagus reported by Myerson, the observation of Vinson was the only finding which demonstrated the presence of a tracheo-esophageal fistula. Vinson noted that, in cases of carcinoma of the esophagus which have perforated into the trachea or the bronchus, a swallowed thread would find its way through the fistula and keep twisting itself around the tracheo-esophageal wall by successively passing through the esophagus after emerging from the larynx.

Boston Medical and Surgical Journal

194: 964-1012 (May 27) 1926

Three Common Causes of Maternal Mortality. R. L. De Normandie, Boston.—p. 963.
Eye and Internist. M. Fremont-Smith, Boston.—p. 968.
*Effects of Sodium Tetraiodophenolphthalein in Complete Biliary Obstruction. S. J. Maddock, New York and L. R. Whitaker, Boston.—p. 973.
*Experiences with Cholecystography. J. D. Camp, Boston, R. J. Reeves, Paulsboro, N. Y., and H. Field, Jr., Boston.—p. 976.
Acrodynia: Six Cases. W. Powell, New Haven, Conn.—p. 980.
Copper Content of Distilled Liquor on Sale in Massachusetts. H. C. Lythgoe, B. O. Berry and S. H. Hall, Boston.—p. 984.
Difficulties Met With in Interpretation of Trends of Cancer Mortality. H. L. Lombard and C. Doering, Boston.—p. 988.

Sodium Tetraiodophenolphthalein for Cholecystography.—Experiments were made by Maddock and Whitaker to ascertain the effect of an intravenous injection of sodium tetraiodophenolphthalein in cases of obstruction of the common bile duct. In complete obstruction, no shadow of the gallbladder is obtainable with sodium tetraiodophenolphthalein. Normal animals after intravenous injection of sodium tetraiodophenolphthalein excrete small amounts in the urine and large amounts in the feces. Animals with complete biliary obstruction, on the other hand, excrete considerable amounts in the urine and also large amounts in the feces. Probably on account of this vicarious elimination, the lethal dose of the drug in animals with complete biliary obstruction proves to be only from 20 to 30 per cent below

that for normal animals. This dose is relatively per kilogram from four to five times that necessary to produce a shadow of the gallbladder in man. Furthermore, the injury to the liver produced by sublethal doses, though somewhat more severe in obstruction than in normal animals, is readily repaired. In all probability, then, there need be no fear of fatal outcome from the intravenous use of sodium tetraiodophenolphthalein for cholecystography in a patient who might happen to have a complete biliary obstruction.

Cholecystography.—A review of the experiences with cholecystography in a series of 475 cases is presented by Camp, Reeves and Field. Both the intravenous and oral methods were used. Sodium tetrabromphenolphthalein, when given intravenously, produced such a reaction in the patient that its use in this manner was not considered safe. Sodium tetraiodophenolphthalein was given intravenously without a severe reaction in seventy-two cases. About one third of these patients experienced some nausea or vomiting. Sodium tetraiodophenolphthalein in plain gelatin capsules given by mouth was used in 334 cases. Sixty-seven per cent of these patients experienced some nausea; 31 per cent complained of varying degrees of vomiting. The oral administration of sodium tetraiodophenolphthalein in coated or hardened capsules and pills did not give consistent results. Many of these failed to dissolve, and the resulting shadows were not reliable. Their use did not eliminate nausea and vomiting.

Johns Hopkins Hospital Bulletin, Baltimore

38: 327-388 (May) 1926

Heparin-Plasma as Stock-Plasma for Tissue Cultures. E. C. Craciun, Baltimore.—p. 327.
*Bismuth Poisoning Following Oral Administration of Bismuth Subnitrate. W. H. Resnik, Baltimore.—p. 333.
Atretic Follicles in Ovary of Rat, Mouse and Rabbit: Significance of Basement Membrane in Determining Source of Origin of Interstitial Cells. W. V. Wilkerson, Richmond, Va.—p. 339.
Chorio-Angiofibroma (Chorio-Angioma): Study of Six Hundred Placentas. R. S. Siddall, Detroit.—p. 355.
Apocrine Sweat Glands in White and Negro Men and Women. H. Homma, Baltimore.—p. 365.
*Case of Influenza Bacillus Endocarditis. E. H. Oppenheimer, Baltimore.—p. 372.
Modified Leukocyte Tumor of Rat. W. H. Lewis and B. Brūda, Baltimore.—p. 376.

Bismuth Subnitrate Causes Poisoning.—A case is reported by Resnik in which bismuth poisoning followed administration of bismuth subnitrate by mouth. In a period of five days the patient took 30 Gm. of bismuth subcarbonate, and no untoward symptoms were observed. About a month later, the woman returned with new symptoms. The important symptoms were a bluish-black discoloration of the gums, tongue and buccal mucosa, with slight ulceration, moderate anemia, basophilic stippling of the erythrocytes, with tenderness and swelling of the parotid glands. There were also abdominal colic and evidences of a mild peripheral neuritis, but the dependence of these symptoms on bismuth poisoning is questionable. The patient recovered.

Influenza Bacillus Endocarditis.—Oppenheimer's case, while caused by the Pfeiffer bacillus, clinically showed the protracted course, cardiac disease, splenomegaly, hemorrhagic nephritis, eruption, fever and clubbing of the digits, with an onset suggestive of a cerebral accident so characteristic of *Streptococcus viridans* disease. Anatomically, the type of the vegetations on the chronically diseased and thickened valves, the widespread petechiae, infarcts and the embolic nephritis fit in detail into the same picture.

Journal of Biological Chemistry, Baltimore

68: 225-497 (May) 1926

Separation of Histidine and Arginine. H. B. Vickery and C. S. Leavenworth, New Haven, Conn.—p. 225.
Oxygen, Acid and Base Combining Properties of Blood. II. Preparation of Crystalline Iso-Electric Hemoglobin by Electrodialysis of Red Blood Cells. W. C. Stadie and E. C. Ross, Philadelphia.—p. 229.
Solubility of Calcium in Serum. L. Irving, San Francisco.—p. 239.
Titration of Organic Acids in Urine. W. W. Palmer, New York.—p. 245.
Stability of Evaporated Milk During Sterilization. A. G. Benton and H. G. Albery, Washington, D. C.—p. 251.
Hydrolysis of Sucrose by Invertase in Presence of Alpha-Methyl Glucoside. II. J. M. Nelson and C. I. Post, New York.—p. 265.
Racemization. III. Action of Alkali on Glycyl-Levoalanyl-Glycine and Glycyl-Glycyl-Levoalanyl-Glycine. P. A. Levene and M. H. Pfaltz, New York.—p. 277.
Plant Phosphatides. II. Lecithin, Cephalin and So-Called Cuorin of Soy Bean. P. A. Levene and I. P. Rolf, New York.—p. 285.
Magnesium Metabolism on Purified Diets. G. Medes, Minneapolis.—p. 295.
Residual Reduction of Blood. R. Ege, Copenhagen.—p. 317.
Id. D. D. Van Slyke and A. Hiller, New York.—p. 323.
Effect of Long Continued Administration of Parathyroid Extract on Excretion of Phosphorus and Calcium. I. Greenwald and J. Gross, New York.—p. 325.
Effect of Temperature on Metabolism, Particularly That of Protein. G. E. Youngburg and M. W. Finch, Buffalo.—p. 335.
Changes in Blood Composition of Rabbits Fed on Raw Soy Beans. A. A. Horvath, Peking.—p. 343.
Lipoid Excretion. III. Fecal Lipids. W. M. Sperry, Rochester, N. Y.—p. 357.
Animal Calorimetry. 31. Respiratory Metabolism in Phlorhizin Diabetes After Glucose Ingestion. M. Wierzuchowski, New York.—p. 385.
Scyllitol from Flowering Dogwood (Cornus Florida). R. M. Hann and C. E. Sando, Washington, D. C.—p. 399.
Inositol from Blackberry (Rubus Argutus Link) and Flowering Dogwood (Cornus Florida). C. E. Sando, Washington, D. C.—p. 403.
Coloring Matter, Quercimeritrin, from Double Chrysanthemum-Flowered Sunflower (Helianthus Annuus). C. E. Sando, Washington, D. C.—p. 407.
Configurational Relationship of Beta-Hydroxybutyric Acid and Propylene Glycol. P. A. Levene and A. Walti, New York.—p. 415.
Rotatory and Reducing Values of Glucose as Influenced by Addition of Muscle Tissue and Insulin in Vitro. J. R. Paul, Philadelphia.—p. 425.
Investigations into Standardization and Calibration of Collodion Membranes: I. C. Lundsgaard and S. A. Holbøll, Copenhagen.—p. 439.
Carbohydrate Metabolism. VI. Determining Presence of New Glucose in Various Biologic Fluids. C. Lundsgaard and S. A. Holbøll, Copenhagen.—p. 457.
Id. Transformation of Liver Glycogen into Glucose in Vitro. C. Lundsgaard and S. A. Holbøll, Copenhagen.—p. 475.
Id. VIII. Action of Liver Tissue and Insulin on Glucose in Vitro. C. Lundsgaard and S. A. Holbøll, Copenhagen.—p. 485.

Journal of General Physiology, Baltimore

9: 603-714 (May 20) 1926

Physiologic Ontogeny. A. Chicken Embryos. VIII. Accelerations of Integration and Differentiation During Embryonic Period. H. A. Murray, Jr., Cambridge, England.—p. 603.
Id. IX. Iodine Reaction for Quantitative Determination of Glutathione in Tissues as Function of Age. H. A. Murray, Jr., Cambridge, England.—p. 621.
Shape of Mammalian Erythrocyte and Its Respiratory Function. II. E. Ponder, Edinburgh.—p. 625.
Latent Period in Action of Copper on Respiration. S. F. Cook, Cambridge, Mass.—p. 631.
Enzyme Action. XXXV. Lipase Actions of Extracts of Tissues of Rabbits at Different Ages. H. M. Noyes, K. G. Falk and E. J. Baumann, New York.—p. 651.

Journal of Urology, Baltimore

15: 409-503 (May) 1926

*Acute Changes in Rabbit's Kidney Produced by Ligating Ureter. H. F. Helmholz and R. S. Field, Rochester, Minn.—p. 409.
*Problems in Renal Surgery. H. G. Bugbee, New York.—p. 431.
Dilatation of Ureter with Rubber Bags in Treatment of Ureteral Calculi. R. L. Dourmashkin, New York City.—p. 449.
Contracture of Neck of Bladder. H. Rubritius and O. Schwarz, Vienna.—p. 461.
Molecular Structure of Plant Fibers Determined by Roentgen Rays. O. L. Sponsler, Los Angeles.—p. 677.
Kinetics of Osmotic Swelling in Living Cells. M. McCutcheon and B. Lucke, Philadelphia.—p. 697.
Effect of Hydrogen Ion Concentration on Swelling of Cells. B. Lucke and M. McCutcheon, Philadelphia.—p. 709.

Changes in Kidney Produced by Ligating Ureter.—Helmholz and Field made a study of the differential pathologic anatomy of hematogenous and ascending infections of the kidney after occlusion of the ureter for from one hour to twenty-eight days. The relation of these experiments to the pathologic changes of pyelitis in man is discussed. It appears that certain hemorrhages (evidence of which is found after death) in the pelvis of the kidney following obstruction of the ureters may be attributed to pressure and not necessarily to infection. The formation of diverticula of the pelvis might give rise to a sterile pyuria that persists for a long time. The products of acute inflammation can be removed so rapidly as to leave practically no trace after a period of fourteen days. The presence or absence of infection makes no marked difference in the gross and microscopic appearance of hydronephrotic kidneys during the first twenty-four hours.

Problems in Renal Surgery.—Bugbee stresses the importance of investigating the cause of hematuria, conservation in

deciding on operation, the proper preparation of the patient for operation, conservation of kidney tissue, nephrotomy preliminary to nephrectomy in poor surgical risks, and the free employment of transfusion and intelligent after-care in cases of kidney surgery.

Maine Medical Association Journal, Portland

17: 83-99 (May) 1926

Proceedings of Maine Medical Association, 1926.—p. 83.

Medical Journal and Record, New York

123: 711-782 (June 2) 1926

Modern Philosophy. Application to Medical Science. H. F. Wolf, New York.—p. 711.
Placing Thoracoplastic Cases in General Surgical Wards: After-Care. S. A. Knopf, New York.—p. 715.
*Bassler Pancreatic Efficiency Test in Chronic Cholecystitis. J. R. Lutz, New York.—p. 719.
Renal Function Tests in General Practice. H. L. Jameson, Philadelphia.—p. 720.
Stomatology in France in 1925. J. Tellier, Lyons, France.—p. 722.
*Treatment of Diabetes: Rational Regimen. A. I. Rubenstone, Philadelphia.—p. 725.
Alcoholic Nerve Block for Pain in Malignant Diseases. G. I. Swetlow and B. Weingarten, New York.—p. 728.
Psycho-Analytic Introduction to Study of Conduct Disorders of Lethargic Encephalitis: Plan for Psychosocial Reconstruction. L. P. Clark New York.—p. 730.
*Problem of Macerated Fetus. M. Rosensohn, New York.—p. 733.
Pyorrhea Alveolaris. A. J. Asgis, New York.—p. 734.
High Enemas and Irrigations. M. S. Shaine, New York.—p. 735.
Cystoscope as Aid to Diagnosis. J. Schwartz, New York.—p. 737.
Psycho-Endocrine States. E. H. Williams and C. A. Wright, Los Angeles.—p. 739.
Desiccated Gonadal Substances. H. Sharlit, H. M. Noyes and K. G. Falk, New York.—p. 741.
Clinical Aspects of Human Sex Gland Maldevelopment and Possible Relief. M. Thorek, Chicago.—p. 743.
Endocrines in Blood Pressure. W. Lintz, New York.—p. 744.
Goiter: Use and Abuse of Thyroidectomy and Iodine. I. Bram, Philadelphia.—p. 746.
Diagnosis and Treatment of Goiter. A. S. Jackson, Madison, Wis.—p. 748.
Hepatic Extract. M. F. Lautman, Hot Springs, Ark.—p. 751.
Production of Mydriasis in Rabbits with Thyrotoxic Blood Serum and Epinephrine. R. L. Pitfield, Philadelphia.—p. 752.
Malaria in Canada. W. R. Riddell, Toronto, Canada.—p. 761.

Bassler Pancreatic Efficiency Test.—Lutz recommends the use of the Bassler pancreatic efficiency test because it is simple, easy to perform, accurate enough for clinical interpretation and inexpensive. When low it usually indicates disease of the head of the pancreas. By determining the condition of the pancreas, it gives an indication for medical or surgical treatment in chronic cholecystitis. It is of diagnostic and prognostic value postoperatively.

Treatment of Diabetes.—Rubenstone describes the plan of diabetic management in use at the Mount Sinai Hospital. He refutes the assertion that it is necessary for a patient to be hospitalized in order that insulin and dietary measures may be carried out successfully.

Macerated Fetus.—The stillbirth rate at the New York Lying-In Hospital for 1924, according to Rosensohn, was 41 per thousand. The macerated fetus represented almost half of the stillbirths. In the cases of macerated fetus, syphilis was present in only fifteen of the ninety-four cases. Toxemia and eclampsia accounted for thirteen. In forty-four cases no cause could be ascertained.

Missouri State Medical Association Journal, St. Louis

23: 165-200 (May) 1926

Cancer of Vulva. E. D. Twyman and C. S. Nelson, Kansas City.—p. 165.
Physiotherapy in Orthopedic Surgery. J. A. Key, St. Louis.—p. 169.
Peptic Ulcer: Relation of Location and Type to Cure. G. E. Knappenberger, Kansas City.—p. 172.
Cholecystography. I. H. Lockwood and E. H. Skinner, Kansas City.—p. 174.
Psycho-Analysis. L. T. Dunaway, Eldorado Springs, and J. E. Dunaway, Exeter.—p. 176.
Blindness Among Six Thousand Adults. H. D. Lamb, St. Louis.—p. 179.

New York State Journal of Medicine, New York

26: 417-488 (May 15) 1926

Proceedings of Medical Society of State of New York, 1925.—p. 417.

Physical Therapeutics, Baltimore

44: 251-306 (May) 1926

Development of High Frequency Currents. F. deKraft, New York.—p. 251.
Treatment of High Arterial Tension. B. B. Grover, Colorado Springs.—p. 263.
Calcium as Food: Relation of Its Assimilation to Ultraviolet Radiations. H. Steenbock, Madison, Wis.—p. 272.
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Philippine Islands Medical Association Journal, Manila

6: 113-148 (April) 1926

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Physical Therapy, X-Ray, Radium, Omaha

7: 251-313 (May) 1926

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Physiotherapy in General Practice. L. S. Merrill, Ogden, Utah.—p. 283.

Public Health Journal, Toronto, Canada

17: 199-270 (May) 1926

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Quarterly Review of Biology, Baltimore

1: 139-314 (April) 1926

Evolution of Horse. W. D. Matthew, New York.—p. 139.
Chromosomes and Genetics. T. H. Morgan, New York.—p. 186.
Host Resistance and Types of Infections in Trypanosomiasis and Malaria. W. H. Taliaferro, Chicago.—p. 246.
Freezing and Survival of Insects at Low Temperatures. N. M. Payne, Minneapolis.—p. 270.

Southwestern Medicine, Phoenix, Ariz.

10: 205-246 (May) 1926

Clinical Conditions Simulating Pulmonary Tuberculosis. F. G. Holmes, Phoenix.—p. 205.
Use of Radiant Energy in Disease. W. W. Watkins, Phoenix.—p. 209.
Perforating Gastric Ulcers. H. D. Ketcherside, Yuma.—p. 212.
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Ocular Manifestations of Pathology in Other Structures. T. H. Cates, Tucson.—p. 218.
Basal Metabolism in Tuberculosis. W. A. Gekler and B. J. Weigel, Albuquerque, N. M.—p. 221.

Surgery, Gynecology and Obstetrics, Chicago

42: 585-728 (May) 1926

*Hydatid Cysts in Children: Three Cases. H. W. Mills, San Bernardino, Calif.—p. 585.
*Operation for Complete Prolapse of Rectum. U. Maes and J. D. Rives, New Orleans.—p. 594.
*Treatment of Pelvic Infections: Analysis of One Thousand One Hundred and Five Cases. T. H. Cherry, New York.—p. 600.
Hypoglossofacial Anastomosis for Facial Paralysis in Two Cases. A. Brown, Omaha.—p. 608.
Sinus Pericranii (Stromeyer): Case. I. Cohn, New Orleans.—p. 614.
*Intercostal Neuralgia as Cause of Abdominal Pain and Tenderness. J. B. Carnett, Philadelphia.—p. 625.
*Intravenous Administration of Mercurochrome. H. H. Trout, Roanoke, Va.—p. 633.
*Acute Intestinal Obstruction Due to Malignant Disease. F. W. Rankin, Lexington, Ky.—p. 638.
Laryngectomy in One Stage. J. E. MacKenty, New York.—p. 644.
*Clinical Value of Erythrocyte Sedimentation Reaction in Surgery. E. H. Rubin, New York.—p. 652.
Rupture of Uterus Following Administration of Pituitary Extract. J. G. Sherrill, Louisville, Ky.—p. 657.
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Catheterization of Ejaculatory Ducts. H. C. Rolnick, Chicago.—p. 667.
*Intra-Abdominal Hemorrhage of Ovarian Origin. D. Feiner, New York.—p. 671.
*End-Results of Medically Treated Peptic Ulcer. N. W. Jones, Portland, Ore.—p. 675.

Morphologic Changes Associated with Partial Occlusion of Pulmonary Veins of One Lung. K. Schlaepfer, Milwaukee.—p. 679.
Actinomycosis Bovis of Leg. G. M. Linthicum, Baltimore.—p. 688.
Operation for Gastric Ulcers of Lesser Curve. A. J. Walton, London.—p. 693.
Immature Cataract Operation for Use When Intracapsular Extraction Seems Inadvisable. C. H. Bagley, Baltimore.—p. 698.
Principles of Technic of Second Stage of Labor. J. B. DeLee, Chicago.—p. 701.
Some Types of Harelip and Cleft-Palate Deformities and Operative Results. W. B. Davis, Philadelphia.—p. 704.
Method of Obtaining Greater Relaxation with Whole Thickness Skin Grafts. J. S. Davis and H. F. Traut, Baltimore.—p. 710.
*Treatment of Carcinoma of Penis with Endothermy: Treatment of Metastatic Malignant Lymph Glands. H. A. Kelly and G. E. Ward, Baltimore.—p. 712.
Efficient Suprapubic Suction Drainage. H. H. Gile, Boston.—p. 713.
Method of Passing Wax Tipped Catheter Through Cystoscope Without Making Scratch. R. S. Mallard, Fort Worth, Texas.—p. 716.

Hydatid Cysts in Children.—The total number of cases of hydatid cysts in children for North America to date is only fourteen. Mills puts on record three of these cases and reviews the remainder.

Operation for Rectal Prolapse.—Maes and Rives have developed a plastic operation on the levatores ani and the pelvic fascia, which is based on the assumption that an abnormally deep culdesac, together with relaxation of the lateral ligaments, the levatores ani and the sphincter ani, is the cause of complete prolapse of the rectum.

Treatment of Pelvic Infections.—In 1,105 cases of pelvic infections analyzed by Cherry, the gonococcus was the inciting agent in 88 per cent, and in 12 per cent the condition was due to other causes. The use of diathermy as a conservative measure in the treatment of adnexal disease of gonorrheal origin was the most successful of the palliative methods, as it caused a resolution of pelvic masses in 66.6 per cent of the patients, besides relieving pain in practically 100 per cent. It also, by proper application of electrodes, controlled the infection of the lower genital tract. Initial acute attacks of adnexal inflammation should not be treated surgically, as they spontaneously subside. Recurrent attacks of pelvic inflammation are excellent reasons for the surgical removal on the pelvic lesions. When, in the course of operative removal of infected adnexa, pus contaminates the peritoneal cavity, the best results as to mortality and wound union are obtained by closure of the abdomen without drainage. If drainage is necessary, the vaginal route is better than the abdominal.

Intercostal Neuralgia.—Carnett defines intercostal neuralgia as being only a syndrome that may be present in any one of a great variety of lesions which involve the spinal cord, or the intercostal nerve roots, trunks or terminals. The underlying disease may be an irritative lesion of the sensory tracts in the spinal cord; any form of spinal meningitis, particularly syphilitic and tuberculous; a disease of intercostal sensory nerve roots or ganglions, as in herpes zoster; sarcoma, secondary carcinoma, tuberculosis or syphilis of the vertebrae; various forms of arthritis and ostearthritis of the spine; typhoid spondylitis; abnormal curvature of the spine; postural strains of the spine; trauma, either direct or indirect, to the spinal region or fracture of ribs; endogenous toxins, as from carious teeth, infected tonsils, upper respiratory tract infections, pneumonia, pulmonary tuberculosis, intra-abdominal foci of infection, infectious diseases, etc.; exogenous toxins, as lead, alcohol, arsenic, antitoxins, serobacterins, and various constitutional affections, as anemias, blood dyscrasias, syphilis and diabetes. Theoretically, an exhaustive, painstaking examination should reveal evidence of the underlying disease causing the symptoms of intercostal neuralgia in every case. In practice, however, it is often impossible to determine the definite cause, and frequently two or more causes may be acting together in any given case.

Mercurochrome for Blood Stream Infections.—Given a patient with a positive blood stream infection, from whom all possible foci have been removed, Trout says mercurochrome-220 soluble is worth a trial. At least, it is one more thing to do in these otherwise hopeless cases, and even if it is of no benefit to the patient, this will often prove of some comfort to the family. Trout does not believe, however, that all the claims made for mercurochrome as a blood stream sterilizer are as yet proved, and, like any other substance, it should not be put in a vein "unadvisedly or lightly."

Acute Intestinal Obstruction Due to Malignant Disease.—The four cases of acute malignant obstruction reported by Rankin have been the result in three instances of carcinoma, and in one instance of sarcoma. All represent malignant disease of different segments of the colon, and in each instance a different operative procedure was instituted. The location of the growth was in the splenic flexure in one instance, at the junction of the descending colon with the sigmoid in another, in the central portion of the sigmoid in the third, and in the ileocecal coil in the sarcoma case. All patients were suffering from acute obstruction on admission. Of the three cases of carcinoma, one represented an unheralded type of obstruction, while two were typical of subacute stenosis suddenly becoming acute. In the sarcoma case, the obstruction was an acute one due to intussusception. Three of the four made operative recovery, and one died from peritonitis following enterostomy.

Value of Erythrocyte Sedimentation Reaction.—Rubin found the erythrocyte sedimentation reaction to be a more reliable indication of the condition of the patient than the temperature chart. Its diagnostic and prognostic value are secondary to its value in indicating the acuteness of a process. Extrasurgical complications such as syphilis or tuberculosis tend to maintain high readings in spite of the improvement or even the cure of the surgical affection. In the absence of such complications, repeated tests may guide in the discharge of patients, although for many reasons it would not be practical to keep patients in the hospital until the reaction had reached normal limits. Because the test indicates the severity of tissue destruction, it should be of value in determining the advisability and time for operation.

Intra-Abdominal Hemorrhage of Ovarian Origin.—One of Feiner's cases was one of bleeding from a ruptured corpus luteum; the second case represents a group occurring in girls of adolescent age during one of their early menstrual periods. The third case exemplifies that group in which a twisted ovarian cyst may give rise to intraperitoneal bleeding.

End-Results of Medically Treated Peptic Ulcer.—A series of carefuly selected and controlled peptic ulcer cases have been studied by Jones from the standpoint of their end-results following medical management. Of the acute duodenal ulcers, that is, ulcers of less than one year's duration, 89 per cent have been apparently cured after periods of time varying from one to five years. Sixty-one and five-tenths per cent of the chronic duodenal ulcers have been apparently cured; but a word of doubt is expressed about the ultimate healing of cases in which there remains definite and permanent deformity. Fifty per cent of the acute ulcers and all of the chronic ulcers apparently heal with this deformity. Acute gastric ulcers apparently heal favorably under medical treatment. It is evident that some secondary ulcers heal in like manner. The suggestion is made that a long period of bed rest may be one of the most important principles, if it is not the most important principle, that is involved in medical ulcer therapy.

Endothermy for Carcinoma of Penis.—Kelly and Ward assert that, with proper technic (coagulation), the local lesion in carcinoma of the penis can be cured with endothermy. It is possible to eliminate a metastatic gland by incising the skin and exposing it and treating it with the strong bipolar coagulating current, destroying the whole interior of the gland.

Tennessee State Medical Association Journal, Nashville

18: 309-348 (March) 1926

Disease of Accessory Sinuses. M. M. Cullom, Nashville.—p. 309.
Leukemia. W. T. DeSautelle, Knoxville.—p. 316.
Embryonal Adenomyosarcoma of Kidney. T. Barry and R. Monger, Knoxville.—p. 322.
Congenital Pyloric Stenosis. J. G. Eblen, Lenoir City.—p. 327.
Otitis Media. H. E. Christenberry, Knoxville.—p. 331.
Tic Douloureux. C. S. McMurray, Nashville.—p. 335.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Surgery, Bristol

13: 601-792 (April) 1926

Thomas' Hip Splint. D. Power.—p. 601.
*Chorionic Carcinoma in Testicle: Case. R. M. Handfield-Jones.—p. 606.
*Nerves of Stomach; Relation to Surgery. E. D. McCrea.—p. 621.
*Solitary Hemorrhagic Cysts of Kidney: Case Originating in Cavernous Hemangioma. R. C. Begg.—p. 649.
*Prostatectomy. I. Cohen, E. C. Dodds and C. H. S. Webb.—p. 656.
*Primary Tumors of Ureter. R. L. Stewart.—p. 667.
*Subphrenic Abscess. L. R. Fifield and R. J. M. Love.—p. 683.
Hemangioma of Leg. G. Bell and K. Inglis.—p. 696.
Surgical Treatment of Chronic Bacillary Dysentery. P. Manson-Bahr and A. L. Gregg.—p. 701.
*Closure of Congenital Clefts of Hard Palate. A. Campbell.—p. 715.
Simple Tumors of Intestine: Relation to Cancer. C. Dukes.—p. 720.
Case of Solitary Fibrocystic Disease of Humerus Exhibiting Spontaneous Resolution. A. W. Adams.—p. 734.
Fat Necrosis of Breast: Case. G. Hadfield.—p. 742.
Pedunculated Thyroid Tumor at Base of Tongue, Arising from Region of Foramen Cecum. F. Harvey.—p. 746.
*Appendix "Pinned" to Liver. W. W. Galbraith.—p. 749.
Fibromatous Tumor Containing Osteoclast-Like Cells Growing in Subcutaneous Tissue. A. Piney.—p. 752.
Sarcoma of Small Intestine in Boy of Three Years, Associated with Intussusception of Ileum. A. Fullerton.—p. 754.
Hypernephroma of Gallbladder: Cholecystectomy. W. Tyson.—p. 757.
Fusiform Dilatation of Duodenum Simulating Hour-Glass Stomach. J. Morley.—p. 759.
Implantation Dermoid of Terminal Phalanx of Thumb. H. Burrows.—p. 761.
Reducible Hernia of Lipoma of Knee-Joint. W. S. Handley.—p. 762.
Large Salivary Calculus Which Had Undergone Spontaneous Fracture Leading to Eburnation of Broken Surfaces. J. Berry.—p. 763.

Chorionic Carcinoma in Testis.—The swelling of the testis in Handfield-Jones' case came on quite rapidly and was accompanied by slight dragging pain in the right lower part of the abdomen. The only treatment of any sort suggested was that of radiant heat to the enlarged testis. Handfield-Jones saw the man for the first time eight months after the swelling was first noticed. The testis was removed, but the man died two months afterward. The postmortem examination revealed that both lungs were riddled with metastases. The superior mediastinum was full of a growth, which had spread around and enveloped the heart. The liver contained one large secondary nodule. A huge mass of affected glands was found on and between the aorta and superior vena cava about the level of the right renal vessels; also, a small collection on the external iliac vein and a very definite chain of secondary nodules along the lymphatic running parallel to the vas into the pelvis were found. Scattered all over the peritoneum of the lateral wall of the pelvis were numerous milk spots of growth connected by a fine white tracery of lymphatics. Apart from the chorionic carcinoma, other teratomatous elements were few and far between, and consisted of a few scattered islands of cartilage and some cysts lined by columnar and by cubical epithelium. The chorionic carcinoma was present in widespread areas.

Nerves of Stomach.—A review of the anatomy and physiology of the nerves of the stomach is given by McCrea, and an attempt is made to correlate this knowledge with certain features of the pathology of the organ. The effects of resections of the nerves is described in animals, and certain observations made on man are recorded. Evidence is given to show (1) that the anatomic distribution of the nerves to the stomach is sufficient to account for instances of reflex spasm or of incontinence of the pylorus in the case of gastric or duodenal ulcer, and of spasm or of atony of the body of the stomach with duodenal ulcer; (2) that the "ulcer-bearing" area of the stomach corresponds to the area in which the nerve branches are chiefly grouped; (3) that local spasm with resultant anemia is a probable cause of the chronicity of ulcer, aided by factors such as retention and infection set up by reflex spasm; (4) that certain of the "gastric neuroses" may be exactly simulated by the resection of either the vagi or the splanchnic nerves; (5) that the results of nerve stimulation and therefore of nerve irritation can also simulate certain of these "neuroses"; (6) that the phenomena grouped under the title of the "nervous dyspepsias" or "gastric neuroses" may have at least three sources of origin. These sources are: (*a*) peripheral irritation of the nerves, manifested by gastric signs and symptoms; (*b*) lesions of the nerve paths, and (*c*) central disorders, possibly of endocrine origin. As a logical sequence to the foregoing, operations on the nerves are indicated in certain disorders and diseases of the stomach. Two operations have been suggested based on these findings; one especially suited to the condition of pylorospasm, the other to that of cardiospasm.

Solitary Hemorrhagic Cysts of Kidney.—The suggestion is made by Begg that these solitary hemorrhagic cysts of the kidney are of the nature of partial hematonephroses, in which the source of the bleeding remains active over a long period of time. This source may be in the papillae of the involved portion of the pelvis. In the case reported, an angioma was demonstrated. In some instances the cyst may owe its origin to an angioma in the kidney substance itself. The diagnosis is obscure, and the treatment is total nephrectomy.

Renal Function Tests Before Prostatectomy.—Owing to the lack of uniformity of views on the value of renal function tests in relation to prostatectomy, an investigation of a series of cases was instituted by Cohen, Dodds and Webb. From a study of the figures obtained in relation to after-history, it was found that the nonprotein nitrogen content and uric acid content of the blood formed the best guide to prognosis. The upper limit of safety for the complete operation of prostatectomy was found to be 50 mg. per hundred cubic centimeters for nonprotein nitrogen, and 3.5 mg. per hundred cubic centimeters for uric acid. Experience has shown that if figures above these are encountered, the performance of a preliminary suprapubic cystotomy is advisable. The enucleation can then be carried out when the figures fall within the limits of safety. The blood urea content is much more unreliable than the nonprotein nitrogen and uric acid contents. A high blood urea content must always be regarded as a serious sign, but a low urea content cannot always be regarded as an indication of a normal kidney function. Laboratory findings should never be relied on alone, but should always be considered in combination with the condition of the patient.

Papilloma of Ureter.—Stewart reports a case of primary papillary epithelial tumor of the ureter, with cyst formation and evidences of early malignancy of a local character occurring in a woman, aged 75. Pain, hematuria and frequency of urination were the outstanding symptoms.

Etiology of Subphrenic Abscess.—In a series of seventy-eight cases of subphrenic abscesses analyzed by Fifield and Love, appendicitis was the cause in no fewer than thirty, the commonest variety being right posterior intraperitoneal, of which there were twenty-nine examples. The tendency of a right extraperitoneal abscess to extend forward between the layers of the falciform ligament was noticed in two cases, which suggests a possible route for drainage without involvement of the peritoneal or pleural cavities.

Operation for Cleft Palate.—Campbell uses a mucoperiosteal flap from the nasal septum to close the gap in the hard palate. It is brought down and sutured onto the raw base left by the elevation of a palatal flap so that the nasal raw surface is in contact with palatal raw surface. There is no raw surface in the mouth or in the floor of the nose. The cleft is covered by two flaps, one above the other, both of which contain periosteum.

Appendix "Pinned" to Liver.—Galbraith's patient, aged 11, complained of pain on the right side of the chest and the right upper quadrant of the abdomen, so severe that he was frightened to take a deep breath. There was tenderness all over the abdomen, but rigidity was confined to the right hypochondrium, and over that area there was extreme tenderness on pressure. A diagnosis was made of an acute abdominal condition, the most likely cause for which seemed to be inflammation of a high appendix resulting from an incomplete descent of the cecum. At operation the cecum was found raised out of the right iliac fossa and slightly pulled upward by a tight band which lay on the anterior surface of the ascending colon. Easily identified as the appendix, it was divided at its proximal end, the stump being ligated and

buried in the usual manner. It was then dissected up toward the liver. The whole appendix was now free except the tip. The adhesion was dense, but it ultimately came away from the liver with a jerk. It was then seen that the difficulty in removing the appendix was due to a pin projecting from its tip and firmly fixed into the liver.

Journal of Neurology and Psychopathology, London

6: 267-357 (Feb.) 1926

Theory of Decussation. I. D. Suttie.—p. 267.
Glioma in Fourth Ventricle: Involvement of Triangular Vestibular Nucleus. W. F. Schaller.—p. 281.
*Levulose Tolerance Test in Paralysis Agitans. E. W. Hurst.—p. 291.
Case of Herpes Zoster, Apparently Due to Invasion of Ganglions by Round-Cell Sarcoma. H. H. P. Morton.—p. 296.

Levulose Tolerance Test in Paralysis Agitans.—A certain degree of hyperglycemia is commonly observed in paralysis agitans but is inconstant, while a similar degree also occurs in cerebral vascular disease; it seems probable, therefore, in Hurst's opinion, that this hyperglycemia is the effect of coincident vascular disease and not of the nervous affection. In paralysis agitans there is no definite evidence of liver deficiency as detected by the levulose tolerance test. In only one of eighteen cases was an abnormal rise in the blood sugar found after the administration of levulose.

Journal of Tropical Medicine and Hygiene, London

29: 133-144 (May 1) 1926

*Vaccinia Variolae. H. M. Coplans.—p. 133.

Vaccinia Variolae.—Calf vaccine lymph rendered bacteria free within a few days by the leuko-brilliant green process has been found to retain its potency for several years. An instrument designed for the purpose of rapid and extensive vaccination of calves is described by Coplans. This consists of a double bladed scarifier with a fingerplate so adjusted as to provide a guard to limit the depth and width of the two parallel incisions. A method is described for the liberation of vaccine virus from epithelial tissue by means of wick siphonage. Rabbits inoculated intravenously with the liberated virus developed generalized vaccinia. The liberated virus was proved to be a nonfilter passer. The phenomenon, seen in previously immunized rabbits, of returning sensitiveness of the corneal epithelium to vaccine inoculation while the skin remains refractory, is described and discussed. Experimental results are stated as to the protection afforded to rabbits against vaccinia by treatment with serum obtained from immunized calves, goats and rabbits.

Lancet, London

1: 1075-1128 (June 5) 1926

Disease in Light of Evolution. F. W. Andrews.—p. 1075.
Vision and Evolution. G. E. Smith.—p. 1081.
Osteomalacia. F. S. Fowweather.—p. 1082.
*Tuberculosis of Larynx: Treatment with Galvanocautery. S. Thomson. —p. 1084.
Late Results of Operation for Chronic Painful Hip. C. M. Page.—p. 1087.
*Tubercle Bacilli in Tuberculous Pus. A. D. Gardner.—p. 1090.
*Postmalarial Condition of Cerebrospinal Fluid in General Paralysis of Insane. J. E. Nicole and J. P. Steel.—p. 1091.

Use of Galvanocautery in Tuberculosis of Larynx.—Thomson believes that as a local help the galvanocautery is the most valuable remedy in cases of laryngeal tuberculosis, but the cases in which it is suitable are relatively few. These cases, well selected, yield a cure in a large proportion.

Tubercle Bacilli in Tuberculous Pus.—Gardner asserts that tubercle bacilli can be found microscopically in well over 90 per cent of specimens of tuberculous pus from lesions of bones and joints. This statement, which runs counter to prevailing opinion, is proved by the results of the examination of forty specimens of tuberculous pus. The tubercle bacillus was found microscopically in thirty-seven of these cases and proved present by injection of guinea-pigs in the remaining three cases.

Postmalarial Condition of Spinal Fluid of Paretic Persons.—That some alteration actually does take place in the cerebrospinal fluid after malaria therapy in general paralysis of the insane is shown by the report made by Nicole and Steel based on the examination of forty spinal fluids. The globulin content is much diminished, and in some cases the reading obtained by the colloidal gold test is less typically paretic than before treatment. Such a change tends to appear about the end of twelve months after malaria is terminated. With the further lapse of time beyond this period the change continues, and the colloidal gold reading becomes even more like a tabetic condition. In some cases nothing higher than a "2" has been obtained in either the paretic, syphilitic or meningeal fields.

Medical Journal of Australia, Sydney

1: 507-538 (May 8) 1926

Trophic Glial States in Spinal Cord Lesions. O. Latham.—p. 507.
*Digestion and Mental Disease. J. Bostock.—p. 510.
Estimation of Blood Urea: Hench-Aldrich Method. K. D. Fairley and B. Splatt.—p. 517.
"Cercaria Pigmentosa" in Limnaea Brazieri Bred in Aquarium to Which Sheep Fluke Eggs Had Been Added. B. Bradley.—p. 519.
Episcleritis and Tuberculin Treatment. J. F. Spring.—p. 520.
Banti's Disease. R. J. Millard.—p. 521.

Digestion and Mental Disease.—Bostock states that achlorhydria and hypochlorhydria are surprisingly frequent in the psychoses. They are not causal, but are expressions of the general psychophysical change. Evidence is adduced concerning the possibility of an intimate functional connection between the vagal nucleus, the thyroid gland and digestion. A preliminary investigation shows that achlorhydria is relatively more common in rabbits whose thyroids have been removed than in normal controls.

Tohoku Journal of Experimental Medicine, Sendai, Japan

7: 111-220 (April 30) 1926

*Differentiation of Myeloic and Lymphatic Leukocytes: Peroxidase Reaction (Copper Method). A. Sato and S. Sekiya.—p. 111.
Experimentation on "Peroxidase-Punctured" Animals. S. I. Yoshimatsu. —p. 116.
*Colorimetric Method for Determination of Inorganic Sulphates in Urine, Blood and Milk. S. I. Yoshimatsu.—p. 119.
Excretion of Phenolsulphonphthalein by Normal Kidneys. S. Sugimura and T. Aomura.—p. 125.
Sensitization of Sympathetic System by Hypertonic Serum. S. Tashiro. —p. 144.
Micro-Organisms of Paratyphosus B. Enteritidis Group in Animals. K. Sakai.—p. 153.
Researches on Bacilli Resembling Paratyphosus A. K. Sakai.—p. 162.
Action of Alcohol on Circulation. H. Takahashi.—p. 169.
*Influence of Hemorrhage on Glycogen Content of Liver and Muscles of Rabbit. H. Tachi.—p. 197.
Fluctuation of Blood Sugar and Histologic Changes of Pancreas of Fowls Fed on Deficient Diet. T. Hoshi and S. Ukai.—p. 207.

Differentiation of Myeloic and Lymphatic Leukocytes.—A new peroxidase reaction is described by Sato and Sekiya which is said to be superior to other benzidine methods in simplicity, in sensitivity, in constancy of color and its contrast with the unstained red cells, and in the durability of the reagents used. This method is called the "copper method" because of the use of copper sulphate. Besides the differentiation of the myeloid and lymphoid nature of blood leukocytes, the copper peroxidase reaction possesses some clinical significances, which are described.

Colorimetric Test for Inorganic Sulphates.—A simple rapid colorimetric method for the determination of sulphates in the urine, blood and milk is described by Yoshimatsu. The sulphate is precipitated from a body fluid with benzidine hydrochloride. The precipitate is dissolved in water, and a mixture of iodine, potassium iodide and ammonia is added. The brown color thus developed is applied to the colorimetric method.

Influence of Hemorrhage on Glycogen Content.—Tachi asserts that a severe hemorrhage, i. e., bleeding of about two fifths of the total blood volume, called forth a great diminution of the glycogen content of the liver and muscle, in normal as well as in previously unilaterally splanchnectomized rabbits. In previously bilaterally splanchnectomized rabbits, the severe hemorrhage occasioned a diminution of the glycogen content of the liver and muscle, but the former was reduced only a little, while in the latter it was reduced to a marked degree though somewhat inferior to the other sets of experiments.

Annales de l'Institut Pasteur, Paris

40: 253-352 (April) 1926

Herpes Virus in Morocco. P. Remlinger and J. Bailly.—p. 253.
Action of Chloropicrine on Silkworm Cocoons. G. Bertrand.—p. 288.
*"Avidity" of Diphtheria Antitoxin. T. Madsen and S. Schmidt.—p. 300.
Duration of Gestation in Mice. Nakamura-Hirosi.—p. 303.
Tuberculosis of Cattle in Annam. H. Jacotot.—p. 309.
Borrellina: Filtrable Parasites of Insects. A. Paillot.—p. 314.

Avidity of Diphtheria Antitoxin.—The avidity, that is, the rapidity with which flocculation and neutralization occur when toxin and antitoxin are mixed, does not seem to be proportional to the antitoxic potency. On the other hand, the greater the avidity, the prompter the therapeutic action. Ten units of an antitoxin which neutralized the toxin immediately, and showed flocculation in seventy-five minutes, neutralized six lethal doses of toxin injected intravenously an hour before. With another antitoxin that took fourteen and fifteen hours for neutralization and flocculation, 150 units were required to accomplish the same results. Madsen and Schmidt add that the results of treatment of diphtheria may be improved if antitoxins are standardized by avidity as well as by antitoxic potency.

40: 353-453 (May) 1926

*Standardization of Tuberculins. A. Calmette and De Potter.—p. 353.
Transmission of Oriental Sore by Sandfly. Sergent et al.—p. 411.
*Reduction Test in Serodiagnosis of Cancer. C. Mondain et al.—p. 431.
Value of Synthetic Mediums. A. Berthelot.—p. 440.
Salmonella Disease in Rats and Guinea-Pigs. I. Gheorgiu.—p. 447.
Vaccination at Paris Against Rabies. J. Viala.—p. 450.

Standardization of Tuberculins.—This is a report prepared for the League of Nations' commission on standardization. Calmette and De Potter conclude that intradermal inoculation in parallel series, with a standard tuberculin, on a previously sensitized guinea-pig or on cattle, is the most reliable method for titration. But it is a gage of the special toxicity and antigen potency only for the species involved. The original Koch method gives no information as to antigen property, and the complement fixation reaction is totally unreliable.

Thomas-Binetti Reduction Reaction in Serodiagnosis of Cancer.—Thomas and Binetti found a very rapid decoloration of methylene blue by cancer serum, in the presence of cancer extracts. In Mondain, Douris and Beck's research, the phenomenon seemed to be due solely to the bacteria in the cancer extracts. It was proportional to the amount of the cancer extract, and occurred even without addition of cancer serum. The bacteria consume oxygen and liberate hydrogen, which is immediately retained by the methylene blue, thus entailing an oxidation-reduction reaction.

Archives des Maladies du Cœur, etc., Paris

19: 281-360 (May) 1926

*Pathology of Ventricular Bradycardia. E. Geraudel et al.—p. 281.
*Left Sino-Auricular Node of Human Heart. R. Segre.—p. 295.
Blood Reactions After Hemorrhage. Vedel et al.—p. 303.
Infectious Myelopathic Anemia. R. Lutembacher.—p. 311.

Ventricular Bradycardia from Stenosis of Artery in Conducting Apparatus.—Geraudel, Bénard and Hillemand describe the pathologic anatomy of a case of permanent ventricular bradycardia. The node of Tawara, the bundle of His and its branches appeared intact; but in the artery of the conducting apparatus, originating from the right coronary, considerable stenosis was found. It was evidently entailed by chronic inflammatory lesions. Thus the blood supply of the conducting apparatus in the ventricle was greatly reduced. The findings were identical with those recently described in a previous case. They may be a clew to the Adams-Stokes syndrome.

Sino-Auricular Portion of the Conducting Apparatus of the Heart.—Segre emphasizes that the left part of the sinoauricular node has a special character, suggesting the idea of a regular right and left node. Its function is evidently the same as that of the right part of the node, since their histologic structure is identical. The left node may serve exclusively the left auricle.

19: 361-424 (June) 1926

Examination of Venous Pressure. M. Villaret et al.—p. 361.
Effect of Impeded Abdominal Circulation on Heart and Vessels. G. Galata.—p. 378.
*Diastolic Hypertension in Syphilis, etc. C. Legrand.—p. 384.
Rupture of Aneurysm in a Case of Malaria. C. Roubier and Pétourand.—p. 390.

Diagnostic Value of Diastolic Hypertension.—Legrand made several thousand examinations of the diastolic pressure. It was below 100 mm. mercury in healthy subjects. A slight hypertension was always a sign of some pathologic condition. It was noted, among others, at the onset of kidney disease, of insufficiency or infection of the veins, or of liver insufficiency. In five patients with congenital syphilis, a slight increase of the diastolic tension was the only objective sign. In one of these cases, further investigation revealed congenital syphilis in four or five other members of the family. The source of the disease was traced to a grandfather.

Archives Méd.-Chir. de l'App. Respiratoire, Paris

1: 1-94, 1926

*Interpretation of Respiratory Murmurs. E. Sergent.—p. 1. C'td.
*Pneumolysis. T. Tuffier.—p. 28.
Indications and Results of Phrenicectomy. F. Bordet.—p. 46.
Physiology and Technic of Phrenicectomy. Baumgartner and Alary.—p. 73.

The "Archives of the Respiratory Apparatus."—This new bimonthly has been founded by Sergent and Tuffier.

Respiratory Murmurs.—Sergent has reproduced the respiratory murmurs experimentally, and presents evidence to show that a pathologic murmur is not a superposed one but merely the physiologic murmurs under different physical conditions, resulting from the pathologic condition.

Pleurolysis.—In 1891 Tuffier stripped the pleura from the fascia of the chest wall to allow access to and collapse of the lung. He has applied this operation since in a total of fifty-five patients, bilateral in two. Artificial pneumothorax now answers the same purpose in most cases, but he still prefers the pleurolysis for hemoptysis and for incipient tuberculosis of the apex and for cavities with flexible walls; detaching the pleura from the thoracic wall accomplishes the purpose alone or with an implant of fat, omentum or paraffin, all under local anesthesia. It is useful also to supplement other interventions. He gives illustrations of the condition at necropsy in some of the patients years later, confirming the value of the procedure.

Bulletin de l'Académie de Médecine, Paris

95: 473-517 (May 18) 1926

Spirochetes of the Bronchi. F. Bezançon and E. Etchegoin.—p. 473.
Report of Committee on Alcoholism.—p. 480.
*Treatment of Recent Detachment of the Retina. P. Bolle.—p. 508.
Epidermomycosis Caused by Agent of Chicken Favus. A. Sartory et al.—p. 510.
Hydrotherapy in Gynecologic Disease. L. Derecq.—p. 512.

Sodium Chloride in Treatment of Detachment of the Retina.—Bolle describes his method used successfully in six cases of primary detachment of the retina. The first eight or ten subconjunctival injections, each of 1.5 cc. of an 8 per cent solution of sodium chloride, were made in the region of the detachment. Two or three injections were given weekly. Then two injections were given fifteen minutes apart; one of a 2 or 4 per cent solution was injected in the region of the detachment; the other, of a 6 to 10 per cent solution, at the opposite point. The amount of each was never over 1.5 cc. In detachment of the entire retina, the two injections of each solution were given simultaneously. The injections were followed with hot compresses. All the six patients seem to be definitely cured since no recurrence has been observed up to six years. Bolle emphasizes that the treatment succeeds only in recent cases. The benefit from the lively osmosis thus induced is manifest by the next day.

95: 519-548 (May 25) 1926

*Recuperation of Function in Paralysis. Guillain and Bidou.—p. 526.
Physiologic Standardization of Drugs. P. Cazeneuve.—p. 530.
Bone Autografts. L. Imbert.—p. 538.
*Diagnostic Value of Botelho's Test. J. Lavedan.—p. 543.

Uncrippling the Crippled.—Guillain and Bidou describe several of their fifty cases in which the application of Bidou's method of functional recuperation plus individual prosthesis has restored the earning capacity in old and severe paralysis. In six of the seven adult cases described, the paraplegia was consecutive to poliomyelitis.

Botelho's Test in Serodiagnosis of Cancer.—Lavedan's statistics include 200 tests for cancer made in the Radium Institute at Paris with Botelho's nitric reaction preceded by a refractometric examination. In the 111 cases of confirmed cancer, the test was positive in 74 per cent; in the noncancer cases, in 34 per cent. The percentage of accurate results was higher in cancer of the uterus and breast (82.5 and 85, respectively) than in cancer of the skin, upper respiratory or digestive tracts. In pathologic conditions, without cancer, the test was accurate in 47 per cent; in young and healthy persons in 100 per cent. The reaction does not seem to be specific for cancer or for cachexia. The false reactions observed sometimes in pregnancy, typhoid, diabetes, tuberculosis or syphilis are the negative side of Botelho's reaction. The preliminary refractometry materially reduced the proportion of false positive reactions. Further improvement of the Botelho test may eliminate them entirely. Even now, Lavedan says, it is one of the best methods for serodiagnosis of malignant tumors yet available.

Bulletins de la Société Médicale des Hôpitaux, Paris

50: 737-782 (May 14) 1926

*Vaccination Against Diphtheria. J. Roubinovitch et al.—p. 737.
Mass Immunization with Diphtheria Anatoxin. Martin et al.—p. 745.
Iodine Treatment of Exophthalmic Goiter. C. Flandin.—p. 761.
Convallamarin in Heart Insufficiency. Laignel-Lavastine and P. George.—p. 765.
*Case of Levulosuria. Snapper and S. von Creveld.—p. 774.
*Reactivation of Wassermann Test. H. Dufour et al.—p. 778.

Duration of Acquired Immunity Against Diphtheria.—Roubinovitch, Loiseau and Laffaille state that one injection of 0.5 cc. of anatoxin induced immunity in seventeen of twenty-three children with a positive Schick test. The immunity persisted for nineteen to twenty-five months. After two injections of 0.5 and 1 cc. of anatoxin, the immunity still persists in all the seventeen children of another group, for twelve to twenty-four months to date. No spontaneous immunization occurred in children with a positive Schick test continuing after two injections. In these children a third injection was required.

Case of True Levulosuria.—This case was mentioned June 19, 1926, page 1952.

Reactivation of Wassermann Test Under Infection.—Dufour, Widiez and Castéran injected polyvalent T. A. B. vaccine in a man, aged 60, syphilitic for forty years. Two injections were given a week apart; this induced a positive Wassermann test by the third day. Three weeks later the test became negative again. The case, they say, proves that a previous and latent syphilis may be aroused under the influence of an intercurrent infection.

50: 783-846 (May 21) 1926

*Metabolism in Gout. Loeper et al.—p. 783.
Tuberculin Test in Young Children. Lesné and Coffin.—p. 787.
*Reactivation of Wassermann Test in Infections. G. Milian.—p. 795.
*Tension and Chloral. C. Mattei and J. Dias-Caravoni.—p. 800.
Epidemic Septicemia of Multiform Erythema Type. Semerau-Siemianowski et al.—p. 804.
Radiotherapy of Bone Myeloma. L. Boidin et al.—p. 807.
Fixation Abscess for Meningococcemia. L. Boidin.—p. 815.
Cachexia and Wassermann Test in Infants. M. Renaud.—p. 818.
Iodine in Treatment of Exophthalmic Goiter. M. Labbé.—p. 820.
Relapsing Form of Spirochetal Meningitis. Debray and Jonesco.—p. 831.
Value of Tuberculin Test in Adults. A. Jousset.—p. 834.
Fixation Abscess for Pneumonia. Queyrat.—p. 838.
Benzyl-Cinnamic Ether in Treatment of Tuberculous Orchiepididymitis. Tissot and Chaignon.—p. 840.

Rôle of Oxalic Acid and Cholesterol in Gout.—Loeper, Garcin and Tonnet's observation refers to a man, aged 60, with gout and numerous tophi, who died from uremia. Examination of a bursal cyst revealed only an insignificant amount of uric acid and urates, but a notable amount of cholesterol and calcium oxalate. The oxalic acid content of the blood was considerably above normal. The concretions in the kidneys consisted of cholesterol, calcium phosphocarbonate and oxalate, with very little uric acid. Uricacidemia, cholesteremia and oxalemia seem to be entailed by parallel disturbances of the metabolism of fats, nucleoproteids, and, possibly, also of sugars.

Factors of Reactivation of Wassermann Test.—Milian's experience includes cases in which a positive Wassermann test appeared in the course of herpes of the genital organs. Investigation and clinical signs testified to congenital syphilis. Of six cases with scarlet fever, a positive Wassermann test was positive only in one young man with signs of congenital syphilis. In one of Neuda's cases and in one of Marini's, the Wassermann test became positive in the course of influenza and typhoid fever, It is probable, Milian says, that many ulcerations, considered as tardy radiodermatitis, are in reality syphilitic lesions developed under the influence of the roentgen rays.

Action of Chloral on Arterial Hypertension.—Mattei and Dias-Caravoni report four cases of high blood pressure in which the benefit from chloral was manifest. Two doses of 0.5 Gm. of chloral or four doses of 0.25 were given daily by the mouth. In three or four days the arterial pressure had been reduced by from 2 to 6 cm. The effect persisted from three to six days after the treatment. There was simultaneous increase of diuresis.

Comptes Rendus de la Société de Biologie, Paris

94: 721-804 (March 26) 1926. Partial Index

Sulphur and Suprarenal Pigment. M. Loeper et al.—p. 740.
Double Chronaxy of Optic System. Bourguignon and Déjean.—p. 750.
The Electrocardiograph in Myocardiac Insufficiency. A. Clerc and M. Bascourret.—p. 759.
Action of Antibacteriophage Serum. P. Fabry.—p. 774.
Surface Tension of Plasma in Peptone Shock. E. Zunz.—p. 776.
Changes of Alkali Reserve from Ultraviolet Rays. C. de Gheldere and M. de Roover.—p. 784.
Rôle of Bile in Colon Bacillus Septicemia. Gratia and Doyle.—p. 803.

94: 805-956 (April 9) 1926. Partial Index

Anaerobic Micro-Organisms in Appendicitis. Weinberg et al.—p. 813.
Foot and Mouth Disease Virus Cultivated with Vaccine Virus. M. Belin.—p. 816.
*Injection of Plasma from the Tuberculous. G. Petit et al.—p. 823.
*Sedimentation of Erythrocytes in Leprosy. Gilbert et al.—p. 837.
Basal Azoturia. C. Richet, Jr., and R. Monceaux.—p. 840.
*Localization of Salicylate. P. Carnot and R. Coquoin.—p. 850.
Relations Between Agglutinating and Hemolyzing Properties of Serums. P. Meyer.—p. 869.
*Retention of Chlorides in Nephritis. L. Blum and N. Fusé.—p. 883.
Changes of Blood Under Local Cold: the Spectoreaction. Septelici.—p. 893.
Extinction Phenomenon in Scarlet Fever. Ciuca and Craciunesco.—p. 894.
*Sanocrysin and Sedimentation. L. de Carvalho and Ferreira de Mira, Jr.—p. 910.
Blood Coagulation During the Puerperium. M. V. da S. Moreira.—p. 928.
*Influence of Operation on Blood Platelets. Backman and Hultgren.—p. 942.

Action of Plasma from Tuberculous Animals on Others of Same Species.—Petit, Panisset and Kfouri introduced blood plasma from tuberculous patients, dogs, mice, rabbits and guinea-pigs into animals of these and other species. The injections did not entail any toxic phenomena in the healthy or the tuberculous of the same species. The survival of tuberculous animals, thus treated, seemed to be notably prolonged.

Sedimentation Speed of Erythrocytes in Leprosy.—Gilbert, Tzanck and Cabanis found acceleration of sedimentation in six cases of leprosy. They recall the analogous phenomenon observed by Salomon and Valtis in tuberculosis.

Localization of Salicylate in the Body.—Carnot and Coquoin administered sodium salicylate to rabbits and guinea-pigs by the mouth and subcutaneously. There was evidence that the tendons, cartilage and aponeuroses have a special affinity for this drug, and this entails its accumulation in and around the joints.

Nephritis with Mixed Retention of Chloride.—Blum and Fusé explain how a dry retention of chloride can coexist with a dropsical retention of chloride in nephritis with edema. The hydrated form presents retention of chlorine and sodium in the organic fluids, while the dry form occurs without retention of sodium in the tissues. The features of this mixed retention are an excess of water, chlorine and sodium in the blood plasma; accumulation of chloride in the blood corpuscles and organs, only slight increase of sodium in the organs.

Influence of Sanocrysin on Sedimentation Test.—De Carvalho and Ferreira de Mira injected twenty-six guinea-pigs with sanocrysin and then examined the blood from intra-

cardiac puncture. The sedimentation speed of the erythrocytes seemed to be unchanged. They consider this as proof that sanocrysin is not toxic.

Effect of Surgical Intervention on Blood Platelets.—Backman and Hultgren conclude from their experiments on rabbits that every operation increases the number of blood platelets. This rise is especially pronounced and prolonged after removal of the spleen. It shows, they say, that the spleen has normally a weak inhibiting action on formation of blood platelets in the bone marrow.

Encéphale, Paris

21: 305-416 (May) 1926
Muscular Coordination in Relation to the Cerebellum. F. Tilney and F. A. Pike.—p. 305.
*Pituitary Cachexia. C. I. Urechia and N. Elekes.—p. 352.
Ear Labyrinth and Conjugate Deviation of the Eyes. Muskens.—p. 369.
Adler's Theory of the "Nervous Character." E. Wexberg.—p. 391.
Medicolegal Reactions in Epidemic Encephalitis. M. Rossi.—p. 399.

Tuber Cinereum and Pituitary Cachexia.—Experiments on animals, Urechia and Elekes say, tend to prove that it is not the removal of the pituitary gland which induces Cushing's pituitary cachexia, but accidental injury to the tuber cinereum. Changes of the pituitary gland may induce cachexia if the infundibulum is simultaneously involved, or if there is glandular auto-intoxication affecting the vegetative nuclei. Lesions of these nuclei entail variations of the body temperature, of carbohydrate and fat metabolism, also loss of strength. Transient improvement from pituitary extract may be explained by the specific action of pituitary hormones on the sympathetic nuclei of the adjacent tuber cinereum.

Gynécologie et Obstétrique, Paris

13: 321-400 (May) 1926
*Diabetes Insipidus in Eclampsia. Laurentie and Basiliou.—p. 321.
Pathology of Uteroplacental Apoplexy. R. Mestre.—p. 332.
*Application of Forceps to Superior Strait. Lantuéjoul—p. 343.
Treatment of Retrodeviation of the Uterus. A. Pistuddi.—p. 351.

Pathogenesis of Diabetes Insipidus with Eclampsia.—Laurentie and Basiliou describe a case of diabetes insipidus associated with eclampsia, both developing three weeks after childbirth. No albumin or sugar was discovered in the urine. Arterial hypertension and hypertension of the cerebrospinal fluid may have caused mechanical distention of the cerebral ventricles. On the other hand, the cerebral disturbances may have favored fixation of eclampsia-inducing toxins in the elective third ventricle. They are inclined to believe that the same toxic factor responsible for the eclampsia, as well as the mechanical factors, may have been—alone or together—responsible for the diabetes insipidus.

Application of Forceps to Superior Strait.—Lantuéjoul says that conditions in six cases have compelled this rare intervention at the Tarnier Clinic in less than two years. While the head was held firm, the woman's legs were first extended to the utmost (Crouzat position) and then the thighs were slowly flexed on the abdomen. This mobilized the pelvis around the stationary head, and it then readily engaged. In one case the position was thus changed four times. The mechanism was studied on the cadaver.

Journal de Médecine de Lyon

7: 251-276 (May 20) 1926
Endocrine Derangement with Congenital Syphilis. J. Nicolas and J. Gaté.—p. 251.
Masked Congenital Syphilis. M. Carle.—p. 261.
*Seasonal Desquamation. M. Favre and J. Gaté.—p. 267.
Bazin's Vacciniform Hydroa. J. Nicolas et al.—p. 273.

Seasonal Desquamation of Hands and Feet.—In one of Favre and Gaté's three patients, desquamation of the hands had been recurring every spring for ten years, lasting each time about four months. A second case was observed in a young girl, and the third in a roentgenologist. The affection is characterized by pseudovesicular elevation of the epidermis and desquamation, each patch with a well defined margin. The affection is sometimes located also on the soles. It resembles dyshidrosis in that the latter presents areas of desquamation in the terminal stage. Excellent results were obtained with daily applications of iodine. The hands were washed with hot water every morning, then rubbed with glycerin and swabbed with iodine. The affection disappeared in from a few days to two weeks; it had proved rebellious to all previous treatment. It is possible that the affection may be caused by a fungus, but examinations to date have been negative.

Nourrisson, Paris

14: 65-136 (March) 1926
*Chafing About the Buttocks. A. B. Marfan.—p. 65.
*Absorption of Injected Fluids in Infants. L. Ribadeau-Dumas and Tisserand.—p. 79.
The Nervous System in Infants. H. Lemaire.—p. 85.
The Trained Visiting Nurse for Infants. Chaptal.—p. 93.

Rebellious Chafing in Infants.—Marfan prefers a salve to powders (equal parts petrolatum and rectified wool fat). If strict hygiene and this salve fail to cure the erythema, he suspects syphilis.

Resorption of Fluids in Infant's Organism.—In Ribadeau-Dumas and Tisserand's tests, the speed of resorption of liquids injected subcutaneously seemed to be the same in infants as in older children, namely, about one hour. In the dehydration syndrome, the fluids were absorbed immediately. A considerable want of water was manifest also in premature infants. On the other hand, the absorption was retarded in marasmus in which, as has recently been proved, the water content of the organism is increased. In cases of malnutrition, a slow resorption testified to a menacing marasmus. While salt or glucose solutions are rapidly eliminated by the urine, albumin serums—horse serum, for example—are retained in the organism. Horse serum, however, should be used with great caution, since serum sickness may be dangerous in infants. They suggest an amine-dextrose serum, or horse serum deprived of albumin, plus amine. Injections of these fluids seemed to induce a regular increase of weight, and were not followed by any kidney complications.

14: 137-200 (May) 1926
Pyelonephritis, Pyelitis and Colibacillosis in Infants. Lavergne.—p. 137.
*Univitelline and Bivitelline Twins. E. Apert.—p. 155.
Maternity Ward for Tuberculous Women. A. Couvelaire.—p. 167.

Study of Twins.—Apert emphasizes that only twins originating from one ovum present a confusing resemblance. The likeness between twins derived from two ova is no more striking than that usually observed among brothers and sisters. Univitelline twins are always of the same sex; the bivitelline only in about 50 per cent. The frequency of univitelline or bivitelline twin births varies in different races. While univitelline pregnancy does not seem to be connected with the age of the woman, bivitelline pregnancy is most common between 35 and 40. The rôle of heredity is important in the latter, and is insignificant in univitelline pregnancies. Bivitelline pregnancy is a normal phenomenon, univitelline is pathologic, and syphilis seems to be most responsible. The percentage of stillborn infants, also the mortality during the first year of life is larger among univitelline than among other twins.

Paris Médical

59: 509-524 (May 29) 1926
Rare Earths in Treatment of Tuberculosis. Grenet and Drouin.—p. 509.
*The Vegetative System in Gout. C. Finck.—p. 515.
Potassium Permanganate as Oxidizing Agent. Veyrières and Valette.—p. 521.

The Vegetative Nervous System in Gout.—Finck found in forty-one patients with gout a condition of amphotonia, vagotonia predominating. An attack of gout seemed to represent a hypervagotonic crisis. Treatment should aim to reenforce the sympathetic. Drugs which tend to increase the sympathetic tonus are effective in arresting the attack of gout. Colchicin has a strong affinity for the sympathetic. In toxic doses it paralyzes the vagus.

59: 525-556 (June 5) 1926
Infectious Diseases in 1926. C. Dopter.—p. 525.
Study of the Herpes Virus. P. Remlinger and J. Bailly.—p. 536.
Vaccination with Associated Vaccines. Zoeller and Ramon.—p. 539.
Spirochetosis with Polyserositis. P. Harvier and Chabrun.—p. 541.
*Ultraviruses and Filtrable Forms of Bacteria. P. Hauduroy.—p. 544.
*Man as Plague Carrier. M. Leger.—p. 552.

The Ultraviruses and Filtrable Forms of Bacteria.—Hauduroy does not agree with Nicolle that ultraviruses may

originate from filtrable forms of bacteria. They represent two different forms of germs, although having certain common properties. The ultravirus is invisible and filtrable; it develops only in the presence of living matter (biotropism), and it induces highly contagious diseases. The properties of the filtrable forms of visible bacteria are not all determined as yet; so far as known, they are filtrable and invisible, difficult to cultivate, and they may retain their vitality for years. While the Shiga bacilli live only one month in an artificial medium, their filtrable forms were still alive and transmitted the disease after ten years in his tests. It is possible that further study of the filtrable forms of bacteria may revolutionize the present theories as to certain diseases.

Man as Carrier of Plague Bacillus.—Leger's conclusions are based on observations made during several epidemics in the French colonies in Africa. Contrary to the current theory, rats could not be incriminated for the plague in man. In other colonies an epidemic of plague occurred before the rat plague epizootic. During certain epidemics, the rats did not harbor the plague bacilli. On the other hand, there was evidence that the disease was transmitted from man to man, by intermediation of healthy carriers of the specific bacillus. The question now is to determine how long the bacillus can survive in human reservoirs, and whether it passes into the blood.

Presse Médicale, Paris

34: 641-656 (May 22) 1926

*Hydrophilia Skin Test. M. Labbé et al.—p. 641.
*Agar Vaccine in Skin Infections. H. Jausion et al.—p. 642.

Skin Test for Resorption Speed of Fluids.—Labbé, Violle and Azerad applied the test in patients with cardiac or renal edema, or with ascites from liver disease. They injected intradermally 0.2 cc. of a 0.85 per cent salt solution. While the resulting swelling of the cuticle normally disappears in an hour or an hour and a half, in these pathologic conditions it disappears in from five to thirty-five minutes. The results were the same with injections of plasma or of serum. The resorption speed was reduced in diabetics in the preedematous stage. The test revealed complete parallelism between the water want of the tissues and humors of the body and the diuresis, in infectious diseases. The resorption skin test seems to have not only biologic interest but also some clinical value.

Advantages of Biologic Dressings with Agar Vaccine.—Jausion, Vaucel and Diot used for the vaccine an emulsion of one or of associated microbes, cultivated on agar. Tepid dressings were applied daily the first four days, then at one or two day intervals. Different skin affections such as furunculosis, folliculitis, impetigo, ecthyma and intertrigo disappeared definitely after from four to fifteen applications. Reinoculation of soft chancre was negative in the bearer after about ten dressings. Vulvovaginitis and ulcerations of the cervix were rapidly improved; the results were also favorable in external suppurating otitis and blepharoconjunctivitis. The vaccine was used in prophylactic treatment in surgical wounds; there was never any infection.

34: 657-672 (May 26) 1926

Pyelography. Legueu et al.—p. 657.
Anatoxin in Vaccination Against Diphtheria. C. Zoeller.—p. 659.
Insulin in Fattening Treatment of Nondiabetics. G. Ichok.—p. 663.

34: 673-688 (May 29) 1926

Arthroplasty for Correction of Stiff Joints. C. Lenormant.—p. 673.
*Pathogenesis of Thirst. L. Binet.—p. 676.
Present Status of Metapsychics. R. van der Elst.—p. 683.

Pathogenesis of Thirst.—The sensation of thirst, Binet says, is of local origin, when induced by dryness of the mouth as, for instance, from prolonged talking. It is of general origin, when associated with loss of water by the organism as, for instance, in excessive diuresis or perspiration. Thirst may be also connected with mental derangement or with a disturbed water metabolism, for which lesions of the tuber cinereum may be responsible. Binet queries whether the tuber cinereum possesses two adjacent centers, one for thirst and the other for polyuria, or whether it merely regulates the water balance.

34: 689-704 (June 2) 1926

*Treatment of Varicose Veins. J. A. Sicard and L. Gaugier.—p. 689.
Idem. G. Delater.—p. 693.

Occlusion Treatment of Varicose Veins.—Sicard and Gaugier believe that sodium salicylate is the drug of choice in local treatment to induce sclerosis in varicose veins. Injections of the salicylate into the dilated vein induced a cure in 95 per cent of their cases of small or medium varicose enlargement. The injections seem to be harmless, and do not cause pain. A dose of 2 cc. of a 20 per cent solution is given at the first injection, 2 or 3 cc. of a 30 or 40 per cent solution at the second injection, two or three days apart. The dose of 5 or 6 cc. never should be surpassed. Five or six injections, given within from two to four weeks, induced complete sclerosis of medium sized varicose veins on one leg. Mercury biniodide or quinine may be indicated for large varices or in those rebellious to the salicylate. No phlebitis or embolism was ever observed with this treatment. Hypertension, heart insufficiency, kidney disease or arterial claudication are contraindications for this obliterating treatment. It should never be tried with a history of phlebitis, or in women with fibroma, or in pregnant women.

34: 705-720 (June 5) 1926

*Therapeutic Bloodletting. A. Lemierre and E. Bernard.—p. 705.
Chronic Cholecystitis and Appendicitis. Ramond and Parturier.—p. 710.

Physiologic Action of Bloodletting and the Indications for It.—Lemierre and Bernard discuss the action of venesection in its main field, acute cardiac insufficiency. The reduction of the venous hypertension, and the consequent resorption of the dropsical fluid, give the heart a chance to work again, and the lost balance is more or less restored, the symptoms subsiding. They reiterate that the action of bloodletting is purely mechanical. In heart disease, the effect on diuresis is the reverse of what is observed under other conditions: Withdrawal of 1,100 and 700 Gm. of blood in two of their patients increased the output of urine at once by 2,500 cc. Venesection displays no beneficial influence in uremia or in permanent arterial hypertension. The vital indications for it are in paroxysmal hypertension from any cause, especially in acute edema of the lungs connected with arterial hypertension or mitral stenosis, also in infectious edema with pneumonia, and in the edema of acute nephritis with retention of chlorides, characterized by phenomena of cerebral edema, also in eclampsia, in coma and cortical blindness. They cite instances of these various types from their own and others' experiences.

Revue Française d'Endocrinologie, Paris

2: 85-163 (April) 1926

*Kidney Function in Exophthalmic Goiter. G. Etienne et al.—p. 85.
*Intestinal Toxemia. M. R. Castex.—p. 95.
*The Thyroid Sign. J. Parisot and G. Richard.—p. 115.
Biologic Tests in the Elderly. R. Legrand.—p. 123.

Kidney Function in Exophthalmic Goiter.—Etienne, Verain and Petitjean's research confirmed that the renal disturbances frequently accompanying exophthalmic goiter are not of organic, but of functional character. Prolonged effort on the part of the kidney to eliminate an excess of waste products may cause fatigue, and finally congestion. The renal changes are then secondary, and are associated with heart insufficiency. They subside as the goiter improves under treatment.

Thyroid and Ovarian Insufficiency in Intestinal Toxemia.—Castex refers to a case of grave congenital myxedema in a girl, aged 9. The parents did not show any signs of thyroid insufficiency, but both suffered with chronic constipation, which had become aggravated in the mother during the last months of pregnancy. The child presented signs of protozoal intestinal infestation. Thyroid and iodine treatment had only slight effect, but notable physical and mental improvement followed at once on treatment of the intestinal parasitism. The intestinal toxemia of the mother may have affected the thyroid of the fetus, entailing congenital myxedema. Intestinal toxemia may be responsible also for defective ovarian functioning, insufficient or excessive menstruation. In these cases organotherapy fails, unless combined with measures to combat the intestinal intoxication.

The Thyroid Sign.—Parisot and Richard emphasize the importance of the thyroid sign for detection of latent hyperthyroidism, as evident in their four years' experience. The thyroid test is based on the fact that an injection of thyroid extract retards the pulse, the systolic arterial pressure drops, and the oculocardiac reflex persists or becomes positive, in persons with exaggerated functioning of the thyroid. The test, they say, is absolutely harmless, which cannot be said always of Bram's quinine test and Goetsch's epinephrine test. It is easily applied and interpreted, and, like the basal metabolism test, it seems to be an early and sensitive index of conditions in the thyroid.

Revue de Médecine, Paris

42: 997-1134, 1925

*Malaria Treatment in Mental Disease. A. Marie.—p. 997.
The Peripheral Venous Pressure. P. G. Bosviel.—p. 1019.
Malaria and General Morbidity in the Near East. Trabaud.—p. 1035 and p. 1041.

Malaria Treatment in Psychiatry.—Marie reports success in 35 per cent of his 236 cases of general paralysis given malaria treatment. He does not approve of restricting the benefits of induced malaria to well established cases of general paralysis. In all the psychoses in his asylum service, a positive Wassermann reaction was obtained in 24.78 per cent of 234, excluding the general paralysis cases. This unsuspected prevalence of a syphilitic factor justified application of the malaria treatment in other than paralysis cases, and this has been systematically done for several months in post-encephalitic parkinsonism, dementia praecox and epilepsy. It is too early for general deductions, but the facts already observed indicate that the cases in which benefit has been observed were always psychoses influenced to a certain degree and more or less indirectly by a syphilitic taint. Every day brings more evidence of the participation of syphilis in the development of psychoses, either by upsetting the endocrine balance, or by distorting the development of the fetal nervous system or of the final myelinization at puberty (dementia praecox). Malaria treatment may offer a means of correcting these abnormal tendencies in congenital syphilis and in syphilis acquired later. It seems to be especially promising when a warning lymphocytosis in the cerebrospinal fluid indicates that irruption of the spirochetes is impending. The countries in which general paralysis is rare seem to be those in which malaria is endemic. It is possible that malaria infection modifies the tissues in such a way that the spirochetes are kept in or pushed back to the ectoderm. The question now is to detect impending and incipient general paralysis. A full bibliography is appended.

Schweizerische medizinische Wochenschrift, Basel

56: 489-512 (May 22) 1926

Adhesive Pericarditis. H. Fischer.—p. 489.
*The Lüttge-Mertz Test. L. Bleyer.—p. 498.
Expectoration of Bile. L. Oetiker.—p. 501.
*Tumor of Pineal Gland. Bienstock.—p. 502.

The Lüttge-Mertz Test.—Bleyer used the Lüttge-von Mertz alcohol modification of Abderhalden's test in seventy-one women in the eighth to tenth month of pregnancy. It was positive in 50 per cent of them. The same method used for determination of the sex of the fetus in utero gave correct results in 55 per cent of them. About the same result may be obtained by tossing a coin. Hirsch's interfereometric method gave results which are a little better (70 per cent correct sex diagnosis).

Tumor of Pineal Gland.—Bienstock's son had an attack of occipital headache in the first night of his twenty-third year, and died five months later from a sarcoma of the pineal gland. The diagnosis had been misled by cerebellar symptoms due to pressure from a cyst. The patient had been a composer of distinction. The first signs of exceptional ability were evident at the age of 3, and he began writing an opera at the age of 12. Another opera composed by him at the age of 14 had been accepted by the leading theater at Karlsruhe. His subsequent productivity was remarkable. No sexual precocity had been noted.

Archivio Italiano di Chirurgia, Bologna

15: 353-488 (April) 1926

*Skin Grafts. G. Ceccarelli.—p. 353.
*Blood Clot and Fibrin Implants. E. Milanesi.—p. 413.
*The Pylorus and Peptic Ulcer. A. Ciminata.—p. 455.

Skin Grafts.—Ceccarelli's conclusions from experimental and clinical research are that while autografts always succeed when properly done, and grafts from a brother often survive, success can be counted on with confidence if the graft is kept for twenty-four hours beforehand in plasma from the receiving subject—other things being equal. Grafts thus prepared heal in place even when there is no family relation, and even when the graft is from another species.

The Biology of Blood-Clot and Fibrin Implants.—Milanesi's twenty-four photomicrograms—most of them colored—show that fresh fibrin or fresh blood clots implanted in a parenchymatous organ heal in place by practically the same mechanism as the healing of aseptic wounds and organization of thrombi. After fixation, the fibrin and the blood clots merely become encapsulated like any inert foreign body.

The Importance of the Pylorus Region in Postoperative Peptic Ulcer.—Ciminata ascribes the ulcer to chemical action and reduced resisting powers of the local tissues. The pyloric region seems to have an exaggerating influence on gastric secretion, and also a spasm-inducing action, both of which favor production of peptic ulcer, but they are not the only factors. Postoperative peptic ulcer developed in five of eight dogs after unilateral exclusion of the pylorus portion; in two of five after bilateral exclusion (Pawlow), but only in one of six after the Billroth II, and here not until nearly four months had elapsed.

Clinica Pediatrica, Modena

8: 193-256 (April) 1926

*Congenital Dislocation of the Patella. B. Formiggini.—p. 193.
*Fatty Degeneration of Kidneys in Children. G. De Toni.—p. 211.
*Postdiphtheric Paralysis. P. Fornara.—p. 228.

Recurrent Dislocation of the Patella.—After correcting the congenital retraction and relaxation of the muscles involved, Formiggini sutured a stout flap to hold the patella in place. This new tendon was split off from the tibial ligament, and was sutured to the anterior surface of the patella and the inner tissues of the knee while still solidly attached to the inner condyle. The functional outcome has been perfect.

Fatty Degeneration of the Kidney in a Child.—The clinical course and the chemistry of the blood, etc., in a boy, aged 4, presented an unusually clear picture of progressive lipoid nephrosis.

Postdiphtheric Paralysis.—Fornara reports some cases in which the diphtheria had escaped recognition, and the resulting paralytic phenomena had been mistaken for hysteria or encephalitis. One girl, aged 17, was nearly in cachexia in the course of five months of the paralysis before its true nature was suspected. Rapid recovery followed moderate antitoxin treatment (a total of 18,000 units). Fornara adds an eighth case to his series of postdiphtheric polyneuritis cases. In this latest one, the symptoms resembled those of epidemic encephalitis, and treatment had been on this basis. The boy, aged 11, presented somnolency, apathy, nystagmus, tremor and muscular jerking, besides the paralysis of the velum and weakness of the legs. The child had had "a slight sore throat" two weeks before. The changes in the cerebrospinal fluid confirmed the at least partially central origin of the paralysis. Under antitoxin treatment, with strychnine and electricity, the cure was complete in four days. In three of his series no antitoxin had been given; in the others it had been given in inadequate doses or not until very late. He mentions also a case of malignant diphtheria in which conditions improved after antitoxin had been injected intraspinally as well as by the usual routes. But the child died six days after the last intraspinal injection, the symptoms indicating irritation of the meninges and cortex.

Pediatria, Naples

34: 505-568 (May 15) 1926

*Toxicity of Agent of Scarlet Fever. P. Ritossa.—p. 505.
Pigmented Xeroderma. A. De Capite.—p. 516.
Italian Works on Pediatrics. F. Lo Presti Seminerio.—p. 529.

Toxicity of Agent of Scarlet Fever.—Ritossa injected massive doses of filtrates from Caronia's cultures, after concentration and addition of phenol (0.5 per cent), intraspinally, intravenously and intraperitoneally in young rabbits and guinea-pigs. The animals died after injection of various amounts (usually above 7 cc. of this concentrated fluid per kilogram of body weight). Controls injected with a similar preparation from the sterile culture medium—perhaps also with addition of phenol—had only slight dyspnea, convulsions and fever after larger doses (one of them after 24.6 cc. per kilogram), but showed no signs of toxic action after injection of up to 21.7 cc. per kilogram intraperitoneally (corresponding to 7.6 Gm. of phenol—in case it had been added to the control—in an adult man.—ED.). He obtained no toxic effects from a nucleoproteid isolated from his cultures.

Policlinico, Rome

33: 721-755 (May 24) 1926

Traumatic Contracture. V. Scarpini.—p. 721.
*Rat-Bite Disease. G. M. Nejrotti.—p. 724.
Leeches. G. Romano.—p. 728.
Tricentennial of Redi. M. Cardini.—p. 736.

Rat-Bite Disease.—Nejrotti's patient developed the typical symptoms of rat-bite fever after having been bitten by a cat. She recovered under arsphenamine treatment.

33: 221-273 (May 15) 1926. Surgical Section

Tuberculosis of Muscles. C. F. Bianchetti.—p. 221.
Kidney Function Tests. A. Cassuto.—p. 233. C'cn.
*Micro-Organisms of Cancer. F. Purpura.—p. 263.

Micro-Organisms of Cancer.—Purpura obtained constantly aerobic cultures of micro-organisms from twenty-one closed human carcinomas or sarcomas. Most of them were cocci, a few formed filaments.

Pratica Pediatrica, Genoa

3: 5-35 (May) 1926

*Typhobacillosis. A. Gismondi.—p. 5.
*Eliasberg's Epituberculous Infiltration. L. Consiglio.—p. 12.
Technic for Infant Feeding. A. Gismondi.—p. 16.

Typhobacillosis.—In differentiating between typhoid and the symptoms from toxic action of the tubercle bacillus, Gismondi warns that the tuberculin test may be negative in established tuberculosis, and that a positive response testifies merely to some close contact with the tubercle bacillus, but does not specify whether the latter is responsible for the symptoms observed at the moment. The comparatively good general condition and negative tests for typhoid speak further against typhoid. The food should be extra nourishing and ample on suspicion of typhobacillosis.

Epituberculous Infiltrates.—Consiglio reports that a small boy seems to have entirely recovered after presenting for a few weeks a compact roentgen-ray opacity of the superior lobe of the right lung and pronounced dulness, slight fever at times, and positive tuberculin skin reaction with good general condition. The onset was insidious; in three months the lung had apparently returned to normal.

Riforma Medica, Naples

42: 409-432 (May 3) 1926

*Treatment of Psoriasis. A. Versari.—p. 409.
Myiasis. C. Veneroni.—p. 416.
Treatment of Acute Polyarthritis. D. Liotta.—p. 418.
*Cellini's Homosexuality. L. Torraca.—p. 424.
Cicatrization of Pulmonary Cavity. G. Laschi.—p. 427.

Treatment of Psoriasis.—Versari recommends a course of injections of an insoluble preparation of bismuth in treatment of psoriasis.

Cellini's Homosexuality.—Torraca publishes evidence (two court convictions) which sustains the probability that Benvenuto Cellini had homosexual relations.

Revista de la Soc. de Med. Interna, Buenos Aires

1: 699-944 (Nov.) 1925

*Ayerza's Disease. P. Escudero.—p. 701.
*Pathologic Anatomy of Ayerza's Disease. D. Brachetto-Brian.—p. 821.

Ayerza's Disease.—This bulky and profusely illustrated issue is devoted entirely to the disease which Ayerza described in 1901 as "black cardiacs." Escudero described the pathologic anatomy in detail in 1905 as obliterating sclerosis of the pulmonary artery, following on syphilitic disease of the bronchi. Arrillaga added in 1912 the histology of the disease. In the first phase, the chronic syphilitic bronchitis is distinguished from other bronchial affections by the notable polycythemia. The right ventricle is not dilated in this stage. The second phase presents in addition sclerosis of the pulmonary artery, peribronchial sclerosis, and hypertrophy of the right ventricle and auricle, while the left heart and the circulation in general are still intact. When the disease reaches the cyanosis stage, a fatal termination is inevitable in about three years at most. In the early stages, treatment for syphilis may arrest the disease completely, but with the secondary sclerosis of the pulmonary artery once established, treatment can be only symptomatic. Escudero emphasizes that in all the cases he has examined to date, syphilis was unmistakable, but he admits the possibility of some other primary factor. Fourteen cases are described in minute detail.

Pathologic Anatomy of Ayerza's Disease.—Brachetto-Brian insists that the term Ayerza's disease should be restricted to cases in which each of the two phases is complete, the chronic bronchopneumopathy with pronounced polycythemia, and the chronic cardioangiopathy with absolute insufficiency of the right heart. Massini has found the blood so thick in Ayerza's disease that it obstructs the puncture needle.

Revista Médica de Barcelona

3: 121-224 (Feb.) 1926

Tuberculous Meningitis in Children. M. Salvat Espasa.—p. 124.
Sanocrysin in Tuberculosis of the Skin. A. Peyri.—p. 139.
*Reactivation of Antiserum. J. Santa-Olalla Esquerdo.—p. 146.
Ventricular Tachyarrhythmia. L. Gallavardin et al.—p. 151.
Pituitary-Infundibular Infantilism and Trauma. K. H. Krabbe.—p. 157.
The Peripheral Venous Pressure Question. M. Villaret.—p. 162.

Reactivated Antiserum in Meningitis.—Peset Aleixandre drew blood from the father and mixed it with the antiserum in a very severe case of epidemic cerebrospinal meningitis. A prompt turn for the better followed the intraspinal injection of this reactivated specific serum. Santa-Olalla Esquerdo applied this same method in two grave cases of pneumococcus meningitis, described here in detail. Both children improved at once, and the cure was soon complete, without sequelae. The meningitis was secondary to or complicated with otitis media in both, plus pneumonia in one. Attempts to substitute guinea-pig serum for the human serum have been less successful.

Revista Médica Latino-Americana, Buenos Aires

11: 711-812 (Jan.) 1926

Radium-Irradiated Mouse Cancer Extract. G. Fichera.—p. 711.
*Acute Adenitis of Iliac Glands. C. Lugones.—p. 719.
Spontaneous Rupture of Uterus During Labor. Rojas and Landa.—p. 723.
Asepsis and Antisepsis in Urologic Surgery. J. J. Gazzolo.—p. 739.
*Cystography with Adenoma of the Prostate. W. E. Coutts.—p. 749.
Treatment of Asthma, Gout and Obesity. J. V. Jiménez.—p. 761.
Case of Dread Psychosis with Claim of Right to Kill. Nogues and D'Oliviera Esteves.—p. 764.

Acute Inflammation of the Iliac Lymph Nodes.—Lugones has encountered three cases of this adenitis; in children, aged 9 months, 3 and 12 years, consecutive to some mild and brief bronchial or pulmonary process. The skin was apparently intact, and the inguinal lymphatics were not involved. The smooth, round tumor was in the lower left quadrant of the abdomen, and the diagnosis of sarcoma of the pelvis had been made. Puncture released 147, 200 and 300 Gm. of pus, containing staphylococci and pneumococci. The punctures were repeated at two or three day intervals, and a small drain was inserted, with complete recovery by the fifth, eighth or twelfth day.

Roentgenology of Hypertrophied Prostate.—Coutts' eight roentgenograms show the advantages of comparing exposures made from the side and the front in investigating adenoma of the prostate.

Revista Medico-Cirurgica do Brazil, Rio de Janeiro

34: 49-96 (Feb.) 1926

*Epidemic Meningitis. A. Renzo and A. de Assis.—p. 49.
*Iodine Treatment of Chancroid. F. Cerqueira Pereira.—p. 73.
Case of Acute Angioneurotic Edema. Afranio Rezende.—p. 80.

Tension of the Cerebrospinal Fluid in Epidemic Meningitis.—Renzo and de Assis record the wide fluctuations in the tension in the course of epidemic meningitis in the young woman whose case is described in detail. The disease proved fatal the twenty-fifth day; serotherapy had not been begun until the third day. The irregularity in the course, the recrudescences, hypertension, and weakness after the injections of the antiserum indicated a toxic action from the nonspecific elements of the antiserum, detracting from the therapeutic effect. They urge the necessity for starting the serotherapy within forty-eight hours, even on mere suspicion of the disease from nuchal rigidity. In thirty-seven other fatal cases, the course had been from two to thirty days. They regard the prognosis as unfavorable if more than forty-eight hours has elapsed since the first symptoms before the antiserum is injected.

Nascent Iodine Treatment of Chancroid.—Cerqueira Pereira reports excellent results from Aleixo's method for applying iodine to tropical and torpid ulcers and chancroid. After cleansing, anesthetizing with a 1 per cent solution of stovaine, and drying the lesion, it is covered with a thin layer of iodoform, and a hot glass rod is drawn lightly over the surface, generating fumes of nascent iodine. The iodine liberated, deposited on the surface of the lesion, forms a black coating. In the six cases of simple venereal chancroid described, the cure was complete under six or seven, or at most, eleven applications. The method is based on Farnarier's success with nascent iodine in treatment of various superficial lesions.

Revista Soc. Arg. de Radio y El., Buenos Aires

1: 47-75 (Dec.) 1925

Case of Calcified Gummas in the Liver. P. A. Maisza.—p. 47.
Differentiation of Spinal Cord Tumors. A. Marque.—p. 53.
*Angioma of the Diploe? E. L. Lanari and A. Marque.—p. 70.

Roentgenography of Angioma of the Diploe.—Lanari and Marque have found angiomas transparent to the roentgen rays as a rule. In two cases of angioma of the elbow, with phleboliths, and in a huge lymphangioma of the head and neck, the lesions were opaque, as also in two recent cases in which extensive pigmented nevus of the face and scalp was accompanied with hemiplegia and epileptic seizures. The roentgen-rays showed branching shadows resembling those visible to the naked eye in cirsoid angioma, and they explain the symptoms as the result of an angioma in the diploe, diverting the blood supply of the brain. The danger of hemorrhage forbids surgical intervention.

Archiv für Schiffs- und Tropenhygiene, etc., Hamburg

30: 231-274 (June 1) 1926

Halogen Compounds as Anthelmintics. R. Kudicke and W. Weise.—p. 231.
Gnats in Russia: A New Sandfly. P. P. Popow.—p. 240.
Coccidiasis in a Woman at Tiflis. Chatridse and Kipschidse.—p. 248.
*The Duodenal Tube in Tenia Expulsion. B. Klein.—p. 250.
Malaria and Pregnancy. H. E. Inhelder.—p. 251.
Conditions as to Hygiene in Ports of Southern Brazil. Fischer.—p. 253.

Duodenal Tube in Treatment of Tenia.—Klein extols the prompt and dependable results of treatment when the anthelmintic is given through the duodenal tube. The tube is left in place for the three fractioned doses, at half hour intervals, followed with the laxative. In twelve of his sixteen cases the tenia was expelled entire.

Beiträge zur klinischen Chirurgie, Berlin

136: 195-384, 1926

Insulin in Surgery in Diabetics. O. Minkowski.—p. 195.
Insulin in Surgery in Diabetics. E. Melchior and Wagner.—p. 209.
*Brain Function Localization and Anesthesia. Kulenkampff.—p. 224.
Painful Tubercle. A. Most.—p. 252.
*Arthritis Deformans: Treatment. E. Payr.—p. 260.
*Surgery of the Brain and Spinal Cord. F. Krause.—p. 330.
Decompression of Posterior Cranial Fossa. F. Voelcker.—p. 339.
*Hyperventilation in Traumatic Epilepsy. L. Heidrich.—p. 341.
Some Rare Epitheliomas of the Skin. J. Jadassohn.—p. 345.
An Epithelial Growth on the Alveolar Process. H. Euler.—p. 359.
Perichondritis of the Laryngeal Cartilage. V. Hinsberg.—p. 365.
*Adhesive Pericarditis in Childhood. K. Stolte.—p. 368.
Operation on a Cholemic Patient. A. Tietze.—p. 375.
Do Gall-Stones Migrate? D. Kulenkampff.—p. 377.
Bacterial Flora of the Hand in Its Usual State. Breitkopf.—p. 379.

Reconstruction of the Theory of Cerebral Cortex Localization in the Light of Experience with Anesthesia.—Kulenkampff comes to the conclusion that the basal ganglia are the seat of the personality and of consciousness and the center of pain sensation. Here lies the point of attack of anesthesia. He distinguishes a "cortical will" and a "basal will." It is this basal will before which, manifested in his patients, the physician's arguments stand helpless. The best means of approach to the basal will is hypnosis. The relation of hypnosis to the basal ganglia and to the cortex are discussed at length. The material at the disposal of the hypnotist, by which he achieves his results, is contained in the cortex, but the state itself is produced independently of cortical function. He also distinguishes a "basal pain" and a "cortical pain," and discusses the relation of anesthesia to each. Recent theories of anesthesia have neglected the biologic factor, and have therefore been unable to account for certain accidents. Mechanically directed pharmacology and medicine is a wrong road, leading away from actuality. Clinician and pharmacologist must work together.

Treatment of Primary and Secondary Arthritis Deformans, Constitutional Pathology of Joints.—Payr regards primary idiopathic arthritis deformans as a prematurely, hence pathologically, aged joint. He recommends distention of the capsule by repeated filling with 0.5 per cent. procaine-epinephrine solution under pressure. This relieves pain and enables the patient to bear muscle massage and hyperemia in various forms. Injection of camphorated phenol and roentgen irradiation cause permanent increase in the joint fluid. Senile changes in the joint and elsewhere in the patient should be combated by constitutional means, not forgetting psychic influences. Where surgery is necessary, much can be done by conservative arthrotomy. In the hip, in severe cases, resection often gives good results. In the chronic infectious form of secondary arthritis deformans, anesthetizing injections may be followed by injections to soften adhesions and indurations. Not till the joint is comparatively painless and mobile is mechanotherapy in place. In ankylosis, excellent results may be be obtained by arthroplasty. The technic for injection of the various joints is given. Payr found leukocytosis in almost all cases of fibrous or bony ankylosis or with a tendency thereto, regardless of the etiology of the arthritis or the duration of the ankylosis. The constitutional factors of joint pathology are discussed at length.

Observations from the Field of Surgery of the Brain and Spinal Cord.—Krause finds that determination of the lower limits of a lesion by myelography after injection of iodized oil is a step in advance. He describes three cases in which the procedure would have shown operation to be useless, in two because of the extent of the lesion, and in one because of the presence of a second tumor at a lower level.

Hyperventilation in Traumatic Epilepsy.—In seven epileptics (35 per cent of those tested), Heidrich was able by hyperventilation to elicit symptoms which pointed accurately to the site of the lesion, as afterward found at operation. The hyperventilation consisted of intensive breathing for ten to fifteen minutes, in a recumbent or sitting position. In patients who react, the procedure enables the physician to provoke an attack when it can be under his observation.

Adhesive Mediastinopericarditis in Children.—Stolte reports five cases in which Brauer's cardiolysis, with removal of the fourth to the sixth ribs, was performed. A woman, aged 22,

who for ten years had suffered from decompensation on slight overexertion, is now able to carry a hod of coal upstairs. A boy, aged 11, who when brought to the clinic collapsed on mounting five or six steps, was skating six months after the operation; three and three-quarters years after the operation, his symptoms are returning. Another boy, aged 11, is reported by his parents to be free of symptoms four years after operation. A third boy of the same age, practically bedridden for four months, left the clinic in good condition, but died one year later; the cause of death is not known. In the fifth case, the immediate excellent results have been followed by return of symptoms.

Dermatologische Wochenschrift, Leipzig

82: 597-636 (May 1) 1926

*The Cure of Leprosy. A. Paldrock.—p. 597.
The Usefulness of Bruck's Reaction. J. Mestschanski.—p. 606.
Temporary Roentgen Sterilization in Both Sexes. S. Bormann.—p. 612.

The Cure of Leprosy.—Five patients were discharged from the Dorpat leper hospital clinically and bacterioscopically well after less than two years' treatment with carbon dioxide snow. Paldrock's theory is that freezing sets antigens free, with resultant formation of antibodies, and an active immunization is thus obtained. Bismuth therapy was combined with the carbon dioxide snow treatment in the last case, and the curative processes were greatly accelerated.

82: 705-732 (May 22) 1926

*Psychic Urticaria. F. Dufke.—p. 705.
Lichen Nitidus Generalisatus. A. Alexander.—p. 709.
Gingivitis and Stomatitis. Lucke.—p. 712.
Personal Prophylaxis of Venereal Diseases. Notthafft.—p. 714.

Psychic Urticaria.—Dufke saw urticaria appear on the face, neck and arms of a woman of good health and normal mentality when a piece of silk or satin was hung about her neck, or when linen was, without her knowledge, substituted. She stated that for two years she had been unable to wear or handle silk, because of this peculiarity. Dufke made the diagnosis of psychic urticaria.

Deutsche medizinische Wochenschrift, Berlin

52: 861-900 (May 21) 1926

*Counting the Blood Platelets. F. B. Hofmann.—p. 861.
Membrane Theory of Excitation. F. Scheffong.—p. 862.
Herpes Zoster and Chickenpox. E. Hoffmann.—p. 864.
Epigastric Syndromes. H. H. Berg.—p. 867.
Sulphur in Shock Treatment. P. Spiro.—p. 868.
*Sympathectomy in Asthma. E. Hesse.—p. 870.
Degkwitz' Sheep Measles Serum. W. Hagen.—p. 871.
"Typhoid in Pomerania." Klare.—p. 872.
"Typhoid Menace in Pomerania." H. Straub.—p. 873.
*Hormones and Mineral Waters. II. H. Kopf.—p. 874.
Skin Test in Echinococcosis. G. Deusch.—p. 875.
Allergy After Tuberculin Plus Vaccinia. H. Fernbach.—p. 875.
*Abdominal Pain. F. Franke.—p. 876.
Tables for Special Diets. A. Kaemmerer.—p. 877.
Treatment of Metatarsalgia. Romich.—p. 878.
Dilation of Uterine Cervix. W. Nusshaum.—p. 879.
Instrument for Constriction. Feldheim.—p. 879.
Tuberculosis of Upper Respiratory Passages. L. Joseph.—p. 880. C'cn.
Physician's Age Insurance. R. Oppenheimer.—p. 883. C'td.
"Arrowsmith." E. Stern.—p. 884. C'cn.
Italian Literature, 1925. H. Jastrowitz.—p. 895. C'cn.

Counting the Blood Platelets.—Hofmann directed Flössner and Danz to investigate the best fluid for preservation of blood platelets. They found this in the Tyrode solution, with addition of about one fifth of its volume of a 0.1 per cent solution of mercuric chloride. The counts made in healthy subjects averaged 760,000 platelets in men and 682,000 in women. The usual methods yield less than one half of this number. This is due to the fact that the small—and probably young—platelets break up with the other methods. Hemoconia seem to be products of their disintegration.

Sympathectomy in Asthma.—Hesse removed the cervical sympathetic in seventeen patients (in five of them, on both sides) in treatment of asthma. Less than 30 per cent were cured for up to twenty-one months. The majority were failures. It is impossible to predict the outcome, but he has the impression that the intervention might be justified.

Hormones and Mineral Waters.—Kopf fed fresh thymus to tadpoles. When using a mineral (bitter) water he found that the thymus—instead of promoting—inhibited their growth.

Pain in the Abdomen or in the Abdominal Wall.—Franke claims priority in the discovery of the symptom of tenderness evoked by pinching the skin, described by Strecker and von der Velden and reported recently in these columns.

Jahrbuch für Kinderheilkunde, Berlin

112: 237-358 (May) 1926

*Etiology of Influenza. A. Adam.—p. 237.
Atrophy of the Pancreas in Children. F. Gross.—p. 251.
Congenital Muscular Contractures. A. Hottinger.—p. 258.
Brain Degeneration After Measles. K. Mosse.—p. 272.
*Lipoids in Children. P. György.—p. 283.
Etiology of Atrophy. K. Svehla and C. Saitz.—p. 298.
Vasoneurotic Constitution. B. Schagan.—p. 321.
*Hygiene of School Work. G. Hinsche.—p. 330.
Recurring Swelling of Parotid Gland. S. Wolff.—p. 334.
"Hardness of Muscles." F. Trendtel.—p. 336.

Etiology of Influenza.—Adam emphasizes that the decrease in infant mortality is limited to the nutritional disturbances. Diseases of the respiratory tract do not participate in the decline. He made 500 blood-agar cultures from the nasal and pharyngeal secretions. Pneumococci of type IV were found in 60 per cent of the children under 2 years of age; in 51 per cent up to 6 years; in 33 per cent up to 14, and in only 2.5 per cent of the adults tested. He suggests the name "pneumococcus planus" for this type.

Lipoids in Children.—György investigated the cholesterol-lecithin ratio in the serum. It is high in the blood of the mothers but is surprisingly low in the blood of the new-born. The ratio remains low for the first two months, but the absolute quantity of the lipoids increases. After this, only the cholesterol increases. The ratio parallels the sedimentation speed. Both lipoids are low in fever. He was unable to induce alimentary hypercholesteremia or hyperlecithinemia.

Hygiene of School Work.—Hinsche points out that the strong emphasis placed on athletics has certain disadvantages. It distracts the attention of the children to such an extent that the other regular requirements of learning overstrain them. Athletic training is dangerous unless there is time for compensatory recuperation.

Klinische Wochenschrift, Berlin

5: 921-968 (May 21) 1926

Accidental Heart Murmurs. P. Martini.—p. 921.
*Tetany and Biologic Spring. E. Moro.—p. 925.
Artificial Wassermann Reaction. H. Sachs et al.—p. 928.
*Vitamins and Bacteria. W. Kollath.—p. 930.
*Blood Sugar After Ligation of Pancreatic Duct. Nather et al.—p. 932.
Viability of Transfused Erythrocytes. H. Wildegans.—p. 936.
*Physique and Phthisis. I. Neuer and P. Feldweg.—p. 939.
Roentgen-Ray Dose and Changes of Current. V. Wucherpfennig.—p. 942.
Bismuth Line. S. Rothman and R. Kurz.—p. 943.
Recklinghausen's Disease. S. Tannhauser.—p. 944.
Artificial Sources of Light. S. Bommer.—p. 946. C'cn.
Physiology of Organs of Sense. O. Koehler.—p. 949.

Tetany and Biologic Spring.—Moro discusses the seasonal aspects of tetany. It occurs very rarely during the summer. The peak of frequency is in March, although it may appear earlier if the cold weather changes suddenly to warmer. He attributes the predisposition to the absence of light in the homes during the winter, with consecutive rickets and its metabolism tending to hypocalcemia. Another cause is the increased irritability of the vegetative nervous system occurring at the same time as the buds begin to swell on the trees. The weather is the provocative factor of the attack. Insolation is partly responsible, since a grave attack may follow the first treatment with artificial light in spasmophilic children. Other meteorologic factors are also contributing causes.

Vitamins and Bacteria.—Kollath confirms Grassberger's observation on the enhanced growth of influenza bacilli in the neighborhood of other micro-organisms, if there is only little blood present, and consequently little of the thermolabile V factor added. He regards this as evidence of vitamin production by the other bacteria. The phenomenon described by Neisser as "wetnursing"—growth of influenza bacilli in colonies of the diphtheria group—occurs in the presence of minimal amounts of iron. The diphtheria bacilli evidently

synthesize both the iron-containing X factor and the other, the V factor. Together with Leichtentritt, Kollath fed large amounts of bacteria to guinea-pigs, but could not prevent scurvy. Influenza bacilli did not grow well on blood from guinea-pigs with experimental scurvy, although washed erythrocytes from these animals enhanced the growth of the bacilli. The serum from these guinea-pigs inhibited the favorable influence even of normal blood. They explain this by a fermentative destruction of the V factor, which occurs to a much less degree in normal serum. Blood from pigeons with experimental beriberi did not differ from the normal. Irradiated salts of iron did not enhance the growth of influenza bacilli, but other germs could use them for production of the X factor.

Blood Sugar After Ligation of Pancreatic Duct.—Nather, Priesel and Wagner confirmed Mansfeld's observation on hypoglycemia in some of their dogs after ligation of the pancreatic duct. They also confirm the obesity. It is not certain whether the hypoglycemia is due to overproduction of insulin or to some action on the thyroid.

The Physique and Phthisis.—Neuer and Feldweg made anthropometric studies on 230 patients with pulmonary tuberculosis. Among these, fifty-five were of the decided sthenic type and sixty-four were asthenic. Although the physical symptoms had been about the same in the beginning, the former group during the period of observation had a mortality of 4 per cent against 50 per cent in the second group. The subjective feeling was good in the sthenic type.

Medizinische Klinik, Berlin

22: 795-832 (May 21) 1926

*Feeding of Children. E. Müller.—p. 795.
Prognosis of Angina Pectoris. F. Kisch.—p. 798.
Aortalgia and Angina Pectoris. N. Ortner.—p. 804.
*Treatment of Roentgen Ulcer. F. Franke.—p. 805.
Intraspinal Treatment of Syphilis. O. Nast.—p. 806.
Air Embolism. F. Dyrenfurth.—p. 807.
*Silver Chloride and Gastric Ulcers. B. Pfab.—p. 808.
*Idem. P. Saxl and A. Kelen.—p. 809.
Endocrine Disturbances. J. Kretschmer.—p. 810.
*Bristles in Lacrimal Duct. H. Lachmann.—p. 812.
Gonorrheal Pus. A. Buschke and W. Jost.—p. 812.
Allergy After Tuberculin plus Swine Serum. M. Nakata.—p. 813.
Cancer and Its Treatment. O. Strauss.—p. 818. C'cn.
Prescribing Narcotics. E. Rost.—p. 831.

Feeding of Children.—Müller pleads against the overfeeding of children with milk. In the second and third year, 400 Gm. daily is enough. Between the seventh and tenth year, 300 Gm., and later 250 Gm. are a good average. Milk contains more fluid than is needed. Dried milk might be advantageous. Children should be given about 20 Gm. of meat or liver daily in the second year; 40 Gm. in the fourth; 60 Gm. in the eighth, and up to 100 Gm. at puberty. Blood is a valuable food. About one sixth to one third of an egg yolk —preferably raw—is recommended for children over 1 year of age every other day. Older children may have two or three eggs—not more—per week. Bread is an important source of protein—not only of carbohydrates. Crackers, and pastries made from the finest flour should be avoided. Vegetables and fruits are necessary. It is irrational to boil the potatoes in water and thus extract the salts, unless the water is used for vegetables. It is useless and harmful to force the child to take soup; two or three tablespoonfuls of a concentrated bouillon are enough.

Treatment of Roentgen Ulcer.—Franke acquired a roentgen-ray ulcer on his finger. It resisted treatment until he applied locally diphtheria antitoxin, although there were no diphtheria bacilli on the ulcer.

Silver Chloride and Gastric Ulcers.—Pfab cut off parts of the mucous membrane of the stomach in dogs. He then—following Saxl's suggestion—administered silver chloride to some of them, and noted a better healing tendency than in the control.

Silver Chloride and Gastric Ulcers.—Saxl and Kelen treat gastric and duodenal ulcers by administration of a 2 per cent solution of colloidal silver chloride. About 2-4 cc. of it is taken in half a glass of water before breakfast and before retiring. An alkali must not be taken immediately before or after the silver chloride, since it may dissolve it and cause argyria.

Bristles in Lacrimal Duct.—Lachmann removed from the upper lacrimal duct of a girl two bristles which probably had been introduced during brushing and dyeing of the eyebrows.

Monatsschrift für Geb. und Gynäkologie, Berlin

73: 129-252 (May) 1926

*Intra-Uterine Prediction of Sex. R. Dyroff.—p. 129.
Implantation of the Tube in the Uterus. A. Mandelstamm.—p. 138.
*Painless Labor with Increased Contractions. P. Gellert.—p. 143.
Gwathmey's Synergistic Anesthesia. J. Finger.—p. 162.
Puerperal Involution of Abdominal Walls. H. W. Siedentopf.—p. 175.
Case of Phlebitis in the Puerperium. F. Kermauner.—p. 188.
Double Uterus and Tubal Pregnancy. F. Heimann.—p. 193.
Postoperative Emphysema of the Abdominal Wall. Zoefgen.—p. 201.
Congenital Ectopic Kidney. H. Baumm.—p. 213.

The Interfereometric Intra-Uterine Prediction of Sex in One Hundred Cases.—Dyroff foretold the sex of the child correctly in seventy-four of his one hundred cases. The failures were equally divided between boys and girls. Better results must be sought by improvement in the test material, through eliminating as far as possible the nonspecific elements.

Painless Labor with Reenforced Uterine Contractions.—Gellert obtains anesthesia and relaxation of the cervix by paracervical injection of procaine and epinephrine and increases the strength of the contractions by addition of an endocrine ecbolic. "The pain of labor is not physiologic." At the beginning of the second stage of labor he relaxes and anesthetizes the perineum by injecting the pudendal nerve, just mesial to each ischial tuberosity, with a similar but stronger solution. The strength of the contractions is maintained by quarter-hourly administration of a pituitary preparation. By these means in normal delivery, in a primipara, the child is born in at most two hours and the process is painless. Gellert has used the method in thirty cases and has seen no untoward effects. The total dose of procaine is 0.4 Gm.; of the pituitary preparation 4-6 cc.

Münchener medizinische Wochenschrift, Munich

73: 853-894 (May 21) 1926

The Passing of Chlorosis. H. v. Hoesslin.—p. 853.
Purpura. F. Krömeke.—p. 856.
*Azorubin Test of Liver. R. Fenstermann.—p. 859.
Dermatitis from Orange Peel. R. Müller.—p. 864.
Treatment of Chilblains. G. Brase.—p. 866.
Foreign Bodies in Lungs. P. Hornung.—p. 867.
Aplastic Anemia and Chloroma. O. Herz.—p. 868.
*Edema of Scrotum with Mediastinal Tumor. M. Hochrein.—p. 869.
Mechanical Treatment of Lisping. H. Gutzmann, Jr.—p. 870.
Quotations from I. P. Semmelweis. F. Bruck.—p. 872.
Kidney Disease: Contracted Kidney. C. R. Schlayer.—p. 872.
Medical Chamber and Organization. A. Stauder.—p. 875.
Reorganization of Physicians. Wingler.—p. 876.
International Population Movement. H. Schmidt.—p. 876.

Azorubin Test of Liver.—Fenstermann confirms the advantages of Azorubin S in diagnosis of disease of the liver. In healthy subjects, 95 per cent of the injected dye is excreted by the liver and 5 per cent by the urine. With disturbance of the liver, the dye increases in the urine. It is less toxic than any other dye used. The technic is simple: merely colorimetric examination of the urine after intravenous injection of 4 cc. of a 1 per cent solution.

Edema of Scrotum with Mediastinal Tumor.—Hochrein's patient had edema of the scrotum due to compression of the vena cava by a mediastinal tumor. The lymph probably did not drain well enough.

Wiener klinische Wochenschrift, Vienna

39: 589-620 (May 20) 1926

Tendencies in Dermatology. L. Arzt.—p. 589.
*Postoperative Irradiation. J. Borak.—p. 593.
*Iodine in Otitis Media. H. Sternberg and K. Goldberger.—p. 594.
*Breeding of Hookworms. K. Usami.—p. 595.
*First Aid. S. Jellinek.—p. 597.
Treatment of Neuroses. H. Kogerer.—p. 599.
Epilepsy. R. Dreikurs.—p. 602.
Digitalis Treatment. L. Braun.—p. 603.—C'cn.
Kitchen for Diabetics. W. Schlesinger. Supplement.—pp. 1-8.

Postoperative Irradiation.—In 1919, Borak treated with roentgen rays sixty-three women after an operation for car-

cinoma of the breast. Of these, twenty-six (42 per cent) are still free from metastasis, and six (10 per cent) have died from other diseases.

Iodine in Otitis Media.—Sternberg and Goldberger inject subcutaneously 1 cc. of a 5 per cent solution of sodium iodide, containing traces of free iodine, in patients with acute catarrh of the middle ear. They noted improvement within twenty-four hours and recovery within six days in five out of ten patients.

Breeding of Hookworms.—Usami mixes the stool with charcoal and incubates it in Petri dishes. After three or four days he covers the plates with agar and pours a little water on it. The larvae penetrate the agar and can be easily found in the water.

First Aid.—Jellinek compares seven cases of injury by a low tension current, with insufficient first aid, and the resulting five deaths, with eight cases of grave injuries, mostly due to high voltage, but with recovery of the victims, due to the presence of mind of clever or trained people. Long hesitation as to what should be done, and neglect to start artificial breathing before the arrival of skilled help were outstanding features in the former group. Even simple things such as pulling out of the contact were omitted. Immediate artificial respiration saved most of those in the second group. One in this group was a baby who had touched a defectively insulated lamp. The mother found the baby apparently dead, but shook it frantically—until it began to breathe. He believes in the necessity for practically universal training in giving first aid.

Zeitschrift für Krebsforschung, Berlin

23: 241-398 (May 20) 1926

Tar Cancer. G. Döderlein.—p. 241.
*Cancer Filtrates in Mouse Cancer. V. Bisceglie.—p. 340.
Paracutaneous Application of Tar. V. E. Mertens.—p. 351.
*Lung Cancer in Miners. Rostoski, Saupe and Schmorl.—p. 360.
Enzyme as Cancer Virus. M. Mühlmann.—p. 385.
Cancer in Argentina. A. H. Roffo.—p. 395.

Cancer Filtrates in Mouse Cancer.—Bisceglie injected mice with a filtrate from mouse adenocarcinoma and transplanted the latter tumor in the same mice. Cancer developed much more rapidly in these animals than in the unprepared controls. The filtrates exert a similar action on the growth of cancer in vitro.

Lung Cancer in Miners.—Rostoski, Saupe and Schmorl deal with the lung tumors observed among the miners of ores in Schneeberg in Saxony: Twenty-one deaths occurred in three and a quarter years among 154 miners. Of these, postmortem examination revealed cancer of the lung in thirteen cases and, among the eight who had not been subjected to necropsy, a tumor was probable in two. This makes 71 per cent of the deaths as due to tumors—mostly carcinomas—of the lungs. Among them were two who had stopped working in the mines fifteen and twenty-two years before. Only two deaths from lung tumors were noted among the nonminer population of the district. A marked anthracochalicosis of the lungs may predispose to cancer, but does not account fully for its development.

Zeitschrift für Tuberkulose, Leipzig

45: 97-176 (May) 1926

Stages of Tuberculosis. A. Genersich.—p. 97.
Congenital Tuberculosis. R. Kochmann.—p. 107.
Immunity in Tuberculosis. J. Holló.—p. 109.
*"Sanocrysin Experiments." H. Møllgaard.—p. 120.
*Reply. O. Bang.—p. 122.
Drugs and Foods in Tuberculosis. G. Schröder and H. Deist.—p. 127.

"Sanocrysin Experiments."—Møllgaard objects to the small doses used by Bang in his experiments. He should have used 0.02 Gm. per kilogram instead of 0.01 Gm. The second objectionable feature was the use of Sanocrysin without the serum. The third was in the forcing of the treatment without heed to the reactions. Bang replies that Møllgaard used strains which were nearer to saprophytes than to tubercle bacilli. In spite of the enormous infecting dose, about 40 per cent of the controls developed no significant tuberculosis. He emphasizes that tubercle bacilli grow well in comparatively concentrated solutions of Sanocrysin in broth ($\frac{1}{2.000}$-$\frac{1}{4.000}$), although they turn black from absorption of the gold. The experiments on rabbits showed no difference between larger and smaller doses. Møllgaard's alleged antituberculin serum mitigates the metal poisoning but not a tuberculin shock.

Zentralblatt für Chirurgie, Leipzig

53: 1297-1360 (May 22) 1926

Improved Extension Apparatus for Fractures. Kulenkampff.—p. 1298.
*Hemostypsis by Blood Transfusion. R. Andler.—p. 1299.
"Snapping Shoulder." H. A. Grueter.—p. 1303.
Anesthesia Apparatus for Experimental Surgery. A. Fischer.—p. 1307.
Indications for Resection in Peptic Ulcer. L. Drüner.—p. 1310.
Vein Ligation in Postanginal Infection. E. Keppeler.—p. 1311.
Suggestion in the Use of the Rubber Drain. K. Mermingas.—p. 1314.

Arrest of Hemorrhage from the Bladder by Transfusion of Small Amount of Blood.—In six cases of hemorrhage from the bladder of three to seven weeks' duration, uninfluenced by the usual hemostyptics, Andler was able to stop the bleeding by transfusion of 40 cc. of blood, so that cystoscopy could be performed.

Zentralblatt für Gynäkologie, Leipzig

50: 1233-1296 (May 8) 1926

Hemorrhagic Infarction of Uterus and Adnexa. F. Danisch.—p. 1234.
Chemical Changes in the Aging Placenta. B. Bienenfeld.—p. 1239.
*Alcohol by Mouth in Puerperal Fever. H. Küstner.—p. 1240.
Carcinoma of the Cervix: Histology and Prognosis. A. Plaut.—p. 1244.
*Adhesions in the Cervix Uteri After Curettage. F. Wolff.—p. 1247.
*A Conservative Treatment of Febrile Abortion. G. Schwarz.—p. 1251.
Continuance of Pregnancy Despite Curettage. S. Weissenberg.—p. 1262.
Comment on Roesle's Abortion Statistics. Niedermeyer.—p. 1268.
Tracheal Catheterization: Technic. L. Zorn.—p. 1270.
Prevention of Tearing of the Fetal Membranes. J. Brock.—p. 1271.

50: 1297-1360 (May 15) 1926

Interfereometric Diagnosis. H. Runge.—p. 1297.
Thymus Extract in Obstetrics. H. Knaus.—p. 1304.
Physiology of Fallopian Tube. F. v. Mikulicz-Radecki and W. Nahmmacher.—p. 1309.
Papyraceous Twins in Triple Pregnancy. P. Wolff.—p. 1313.
Death During Pregnancy from Rupture of Aneurysm. Saenger.—p. 1324.
Mechanism of Central Perineal Tears. E. Sachs.—p. 1326.
Operating by the Vaginal Route. W. Pfeilsticker.—p. 1331.
A "Mechanical Plugger" for Uterine Tamponade. J. A. Beruti.—p. 1337.
Ott's Method for Testing Patency of Tubes. Lemperg.—p. 1342.

Treatment of Septic Puerperal Fever by Giving Large Quantities of Alcohol.—In ten cases Küstner obtained prompt cure by administering each day sufficient brandy and wine to produce deep intoxication by the time of the expected chill. He saw no bad results. Three patients, who had a strong dislike to alcohol and vomited the greater part taken, showed no improvement under the treatment; two of these died. The theory is that by slowing up metabolism, alcohol spares the strength of a patient with lowered nutrition, but Küstner considers of greater importance the effect of alcohol on the bacteria. In a thoroughly drunken man, alcohol is present in the blood in a concentration of about 0.75-1 per cent. Experiments in vitro indicate that, while 1 per cent of alcohol does not kill streptococci, it checks their development.

Adhesions in the Cervix of the Uterus Following Curettage.—Wolff reports three cases of atresia of the cervix following postpartum curettage or artificial abortion by a physician. Scraping the region of the internal os should always be avoided; this requires special care in the puerperal uterus, from which the internal os itself has practically disappeared.

Conservative Treatment of Febrile Abortion by Drainage.—A narrow strip of gauze, dry or wet with alcohol, is introduced into the cervical canal, beyond the internal os. The gauze is changed daily. It keeps the cervical canal open, provides drainage, and by exciting or keeping up uterine contractions favors expulsion of retained fetal tissue. Five or six changes of gauze are usually required, and the average necessary stay in the hospital is fifteen to twenty days. Schwarz reports that this treatment has worked so well in the Marburg clinic that it is now applied to all infected abortions in which digital or instrumental emptying of the uterus appears too dangerous.

Zentralblatt für innere Medizin, Leipzig

47: 481-496 (May 22) 1926

Psychotherapy of Sequels of Organic Internal Diseases. A. Schneider.—p. 481.

Meditsinskoe Obozrenie, Astrakhan

5: 3-101 (April) 1926. Partial Index

*The Bone Marrow in Malaria. A. Puchok.—p. 9.
The Blood Picture with Vagotonia. M. Orloff.—p. 12.
The Predisposition in Nervous Diseases. D. Sheffer.—p. 32.
Dermatitis from Occupational Dust. V. Memorskiy.—p. 54.
*Sympathectomy for Glaucoma. I. Belaeff.—p. 57.

Malaria Parasite in Bone Marrow.—Puchok examined the red bone marrow of the sternum of four persons with chronic malaria. The specific plasmodia were present in the bone marrow only in those cases in which they had been found in the peripheral blood, before the trephining.

Sympathectomy for Acute Glaucoma.—Belaeff applied the operation in three cases of glaucoma, with more or less impairment of vision in the other eye. The superior cervical ganglion on the affected side was removed under local anesthesia in two cases, and in one under chloroform. Notable reduction of the intra-ocular tension, subsidence of the acute attack, and enlargement of the peripheral visual field were the immediate results. The improvement has persisted for four months to date. The anterior margin of the sternocleidomastoid muscle served as the guide in the operation. Belaeff adds that the endocrine glands may play a certain rôle in the pathogenesis of glaucoma, since the latter occurs mostly at the age of involution of the sex glands.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

1: 1677-1772 (April 24) 1926

Duodenal Juice in Clinic and Diagnosis. Martens and Koers.—p. 1684.
*Cancer from Epidemiologic Standpoint. C. Bakker et al.—p. 1698.
Fracture of Head of Radius. T. de Waard.—p. 1703.
Thyroid Insufficiency in a Tadpole. M. Bolten.—p. 1711.
Case of Sulphemoglobinemia. J. de Hartogh, Jr.—p. 1714.
Relations Between Warts and Condylomas. J. C. Müller.—p. 1716.
Hemangioma of the Vulva. J. A. van Dongen.—p. 1719.
The Cancer Research of the Last Few Years. C. Bonne.—p. 1720.

Epidemiology of Cancer.—Bakker, van Dam and Bonne head their article with the title "Where Have Our Cancer Patients Been Residing?" their aim being to stimulate research as to cancer houses and cancer regions throughout the country. They give maps showing that the cancer cases of a district usually occur in groups of adjoining houses. Sambon's map of an Italian village is reproduced; fourteen cases of cancer were known in the eleven houses on the east side of a certain short street, and only two on the west side of the street, the houses and mode of life approximately the same in all, with no kinship relations.

1: 1977-2064 (May 15) 1926

*Surgical Treatment of Pylorospasm in Infants. Suermondt.—p. 1978.
*The Brain After Malaria Treatment. G. P. Frets.—p. 1988.
*Pressure of Cerebrospinal Fluid. J. J. H. M. Klessens.—p. 1998.
Inflammation in Large Intestine and Consequences. Diddens.—p. 2004.
The Mazdaznan Cult. J. L. van Bodegom.—p. 2011.
Growth from Same Mouse Sarcoma in Europe and in Java. Oudendal.—p. 2014.
Painless Uterine Contractions. E. Sanders.—p. 2020.
Pernicious Anemia with Rapid Course. W. J. C. Verhaart.—p. 2022.

Operative Treatment of Pylorospasm in Infants.—Suermondt extols the advantages of the Rammstedt method which he has applied in twenty-four cases. It allows feeding at once, and he advises not to wait more than a few days before operating.

The Brain After Malaria Treatment of General Paralysis.—Frets gives the details of ten cases, all showing that the changes in the brain differ from those found in untreated cases. The microscope confirms that the anatomic benefit from the malaria treatment may parallel the clinical and serologic benefit, but like these is not constant. The special features of the general paralysis cortex still persist, although much less pronounced. The change for the better was least distinct in the one case in which the therapeutic infection had been with relapsing fever.

The Tension of the Cerebrospinal Fluid as Influenced by Mechanical Conditions.—Klessens calls attention to the differences in the pressure of the fluid at lumbar puncture according to the way the head is held. In his seventy lumbar puncture tests, it made a difference of 2 to 16 cm. (water) according as the head was bent forward on the chest or held erect. The lack of any such difference should suggest obstruction of the communication between the skull and spinal cavity..

Norsk Magazin for Lægevidenskaben, Oslo

87: 353-424 (May) 1926

Malformation of Female Genitals. G. Schaanning.—p. 353.
Ganglioneuroma in Cervical Sympathetic. F. Harbitz.—p. 371.
*The Suprarenals in Addison's Disease. F. Harbitz.—p. 371.
*Encephalography and the Normal Encephalogram. J. Riddervold.—p. 377.
*Pathologic Pictures in Encephalography. J. Riddervold.—p. 380.

The Suprarenals in Addison's Disease.—Harbitz states that in the last twenty-five years he has examined post mortem twenty-two cases of Addison's disease, and has always found extensive destructive lesions in both suprarenals, tuberculous in twenty of them; in the other two, severe and chronic inflammation and atrophy. At numerous other necropsies one suprarenal was often found destroyed, with nodules in the other or metastatic tumors in both but there had been no symptoms of Addison's disease. In two cases with defective data the assumption had been Addison's disease but the suprarenals were apparently normal, and he had qualified the diagnosis as dubious.

Encephalography.—Riddervold gives encephalograms showing the aspect in normal and in various pathologic conditions, after insufflation of air by lumbar puncture. In case of doubt he advises to wait a week or two and repeat the insufflation. In some cases the second encephalogram revealed normal conditions. In conclusion he cites instances of tabetic gastric crises relieved by the insufflation, and Wartenberg's case of subsidence of left cerebral hemiplegia and right headache in a young woman, with no recurrence for seven months after insufflation of 250 cc. of air.

Ugeskrift for Læger, Copenhagen

88: 475-500 (May 20) 1926

*Treatment of Pernicious Anemia. H. J. Bing.—p. 475.
Some Organic Nervous Affections. V. Christiansen.—p. 477.
*Diabetic Psychosis. P. J. Reiter.—p. 486.
Technic for Local Injection in Varicose Veins. E. Lunde.—p. 489.
Social Service in Institutions for the Tuberculous. G. E. Permin.—p. 494.
Traumatic Neuroses. J. Helweg.—p. 495.

Treatment of Pernicious Anemia.—Bing expresses surprise that wider use is not made of systematic administration of hydrochloric acid in treatment of pernicious anemia, as Bie has been advocating for several years. In four of thirteen patients given once or twice a day 5 to 8 cc. of dilute hydrochloric acid, the improvement was remarkable and has persisted to date. Two others improved under parenteral protein therapy (milk) but not to such an extent as under the acid substitution treatment.

Diabetic Psychosis.—Reiter comments on the comparatively favorable prognosis of diabetic psychoses, describing a case, notable for the improvement under dieting and for the hereditary taint. An incurable arteriosclerotic affection had been diagnosed at first.

88: 501-524 (May 27) 1926

*Some Organic Nervous Affections. V. Christiansen.—p. 501.

Symptoms from Sensory Irritation and Deficit Functioning.—Christiansen describes a case of diffuse sarcomatosis of the base of the brain which had caused only a few mild, strictly localized symptoms, with no signs of intracranial pressure. Pains and hyperesthesia speak for an essential idiopathic affection of the sensory neurons. In the rheumatic form of trigeminal neuralgia, there is intense tenderness at the emerging point of the nerve, while this is not the case in the malignant, tic douloureux form. A third form has been observed after epidemic encephalitis but he has encountered also isolated cases in recent years. These patients are comparatively young, and the neuralgia is extremely intense and refractory. He begins treatment of trigeminal neuralgia always with aconitine pills. He has obtained excellent results with this, and definite cures in a number of cases. Injection of alcohol is the next resource, but recurrence is the rule in a few months or years. In all three forms of trigeminal neuralgia there may be spontaneous remissions for months at a time. In one case of the malignant type, the injection of alcohol was postponed till the next morning, but before then a spontaneous remission was observed which persisted for more than a year.